MINUTES,

OF THE

Proceedings of a

CONVENTION,

HOLDEN AT

WARREN, OHIO,

on the 13th of November, 1833;

ON THE

subject of connecting the

PENNSYLVANIA AND OHIO

CANALS.

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CANAL CONVENTION.

In pursuance of certain resolutions adopted by a general meeting of the citizens of Trumbull county, convened at Warren on the first day of October, A. D. 1833, inviting the Citizens of the several counties of Pennsylvania & Ohio, interested in a contemplated Canal to connect the Pennsylvania and Ohio Canals, to elect delegates to meet in a convention to be holden at Warren in the county of Trumbull & State of Ohio on Wednesday the thirteenth of November A. D. 1833, to consider the contemplated object and devise proper measures to effect the same: The Convention met pursuant to such invitation, and being called to order by Gen. Simon Perkins of Trumbull county, William Rayen and R. P. Spalding, Esqrs. acting as Secretaries, the following delegates appeared, produced their credentials and took their seats, viz:

FROM PENNSYLVANIA.

Mercer County.

John Fisher,	J. T. Boyd,
Robert McFarlane,	James McClaren,
Benjamin Sharpless,	A. C. Semple,
Harmer Morse,	Rufus P. Spalding,
John Morehead,	James D. White.

Beaver County.

Oliver Cunningham,	James Patterson,
Abner Lacock.	Benjamin Adams,
Joseph Pollock,	Charles T. Whippo,
John Dukehart,	John Clarke,
Joseph Hoopes,	Thomas Henry.

Allegheny County.

Richard Biddle,	Charles Avery,
Abel Fisk,	George Cochrane,
William Lecky,	William Robinson.
George Miltenberger,	

City and County of Philadelphia.

Josiah White,	Jacob S. Waln,
Abraham Miller,	George Handy,
Thomas P. Hoopes,	John M. Atwood.
Alexander McClurg,	

FROM THE STATE OF OHIO.

Trumbull County.

Calvin Pease,	Simon Perkins,
Leicester King,	Eli Baldwin,
William Rayen,	Zalmon Fitch,
Tracy Bronson,	George Swift,
J. P. Kirtland,	David Tod.

Portage County.

George Kirkum,	Eliakim Crosby,
Henry Newberry,	L. V. Bierce,
William Coolman, Jr.	G. B. De Peyster,
E. Harmon,	Benj. Higley,
R. M. Hart,	J. Sloane,
F. Wadsworth,	Roan Clark,
John B. King,	Edward Sumner,
John Harmon,	Joseph Lyman,
Joseph De Wolf,	W. B. Washington
Joshua Woodward,	Elisha W. Lincoln'
Dillingham Clarke.	

Wayne County.

Levi Cox,	Reasin Beall,
John Larwill,	Moses Culbertson,
David McConehay,	Benjamin Jones,
Lindal Sprague,	J. W. Shuckers.

Columbiana County.

John Thompson,	Horace Potter,
David Begges,	Benjamin Hanna,
Joshua Mahlin,	De Lorma Brooks,
Holland Green,	Elderkin Potter,
J. G. Willard,	James Robertson,
Joseph J. Brooks,	David Schofield,
Benjamin Stanton,	William Blackburn.
Jacob Heaton.	

Carroll County.

Roger Morlege,	John Whittaker,

Starke County.

William Christmas,	John Whittaker,
James Hazlet,	John Myers,
James Duncan,	Gardner Field,
N. Dike,	John Brown,
James Welsh,	Malthy Strong.

Tuscarawas County.

Henry Leffer,	Reasin Pritchard.
Sidney B. Belknap,	

On Motion, of Gen. Lacock, of Beaver county: Voted that Benjamin Chew, Jr., of Philadelphia be requested to take a seat as a member of this Convention.

On Motion, of S. B. Belknap, of Tuscarawas, Gen. Abram Shane, of Tuscarawas co. was invited to take a seat as a member of this Convention.

On the nomination, of General Simon Perkins, of Trumbull County, Gen. ABNER LACOCK, of Beaver county, Pa., was unanimously appointed President of this Convention.

On Motion, of William Robinson, Jr., of Allegheny county, ZALMON FITCH of Trumbull county was appointed Clerk.

On Motion, of Mr. Miller of Philadelphia, CALVIN PEASE, of Trumbull Co. was appointed an Assistant Clerk.

On Motion, of *Mr. King* of Trumbull co., the following resolutions were unanimously adopted:

1st. *Resolved*, That a committee, consisting of two persons from each county represented in this Convention, be appointed, by the respective delegates thereof, to report to this meeting a statement of facts, in relation to the proposed union of the Pennsylvania and Ohio Canals, presenting in a concise manner as possible, the advantages resulting from such connexion to the Commerce of the Western country generally; its vast importance to the state of Pennsylvania and the cities of Philadelphia and Pittsburg, and the prospect it offers to capitalists for a profitable investment of money.

2d. *Resolved*, That two committees be appointed in like manner; one comprising two or more delegates from the counties of Columbiana, Starke and others south of the Western Reserve in Ohio: The other of a like number from the counties of Trumbull & Portage, to report to this Convention such information, derived from Official or authentic sources, as may be relied on, as will exhibit the comparative advantages of the various routes, which have been proposed for this connexion.

The following resolution was offered by Mr. *King* of Trumbull county.

3d. *Resolved*, That a committee be appointed in the same manner from the delegates of such counties of Pennsylvania as shall choose to act thereon, to report to this convention, information of a similar character to that called for in the second resolution.

On motion, ordered, that the same lie on the table.

On motion, of Mr. Biddle of Allegheny co. the following resolution was unanimously adopted:

4th *Resolved*, That a committee of five members be appointed to examine the charters of the several companies authorised to effect a junction between the Pennsylvania and Ohio Canals, and report upon the safety with which immediate measures may be taken under their existing provisions towards effecting the object in view.

Ordered that the President appoint said Committee:

Whereupon the President appointed Messrs. Biddle of Pittsburgh, Chew of Philadelphia, Henry of Beaver, King of Trumbull and Begges of Columbiana to constitute said committee.

The following persons were appointed a committee under the first Resolution, viz:

Trumbull county,	Messrs.	King & Pease.
Portage	"	Kirkum & Bierce,
Wayne	"	Cox & Larwill,
Columbiana	"	Begges & E. Potter,
Starke	"	Duncan & Field,
Tuscarawas	"	Pritchard & Shane,
Allegheny	"	Avery & Robinson,
Mercer	"	Fisher & Sharpless,
Beaver	"	Whippo & Pollock,
Philadelphia	"	Hoops & Atwood.

The following persons were appointed committees under the second resolution, viz:

Trumbull county—	Messrs	King, Kirtland, Tod and Bronson.
Portage county	"	Sloane, Coolman Crosby and Newberry.
Wayne	"	Cox and Larwill.
Columbiana	"	Mahlin, Hanna, Stanton, Scolfield and Robertson,
Starke	"	Christmas and Strong.
Tuscarawas	"	Belknap and Lasser.
Carroll	"	Morlege & Whittaker.

On motion of Mr. Spalding, the third Resolution was taken up and adopted, under which resolution the following persons were appointed a committee, viz:

Mercer County—Messrs. M'Farlane, Semple and Spalding.

The delegates from the other counties of Pennsylvania declined making any appointment under said Resolution.

On motion, Ordered that this Convention adjourn until to-morrow morning at nine o'clock.

THURSDAY MORNING, November 14th.

The Convention met pursuant to adjournment:

On motion of Mr. Baldwin of Trumbull Co.

Resolved, That the Editors of the Chronicle and the News-Letter, be permitted to take seats within the bar to take minutes of the proceedings of this Convention.

Mr. King of Trumbull Co. from the committee appointed under the first resolution of yesterday, reported as follows:—

The Committee appointed to present to this convention, the general advantages of a connexion between the Pennsylvania & Ohio canals; in relation to the commerce of the country, the interests of Pennsylvania, Philadelphia and Pittsburgh; and the prospect it offers to capitalists, for a profitable investment; with perfect unanimity respectfully submit the following

REPORT;

That the Ohio Canal commences at a point on the Ohio River, between one and two degrees of Latitude, south of Philadelphia, and after traversing in its course, the most fertile vallies and wealthy sections of the State of Ohio; terminates in Lake Erie, at Cleaveland, about the same distance of Latitude north of Philadelphia.

Throughout this whole line of canal; of more than three hundred miles in extent, there is no point, from which a junction was formed with the Pennsylvania canal, that would not make the distance therefrom to Philadelphia, from two hundred to two hundred and fifty miles less than to New York, by way of the Lake, and New York canal.

From Cleaveland, the nearest point, on the Ohio canal to New York, by the Lake, the Erie canal, and the Hudson River, the distance is at least seven hundred miles. From the same point which must, for all commercial purposes, be considered the most remote from Philadelphia, the distance by the proposed junction of the two canals, to the last named city, will not vary materially from five hundred miles.

From this fact alone, which is apparent on inspection of the map, and which may be ascertained, by examination of the lengths of the various lines of Canals and rail roads, upon the routes; it must be evident to every reflecting mind; that the immense amount of produce, and other articles of commerce, which may accumulate, on the Ohio canal, at any point whatsoever, along its whole line; which now seeks an eastern market, by Lake Erie and the New York canal, must be attracted, by this shorter, and more expeditious route, whenever it shall be opened to it.

When other prominent facts however are taken into consideration the evidence becomes irresistible, and the result certain.

The danger of the Lake navigation, is too well known, to require any detailed statement. The frequent losses sustained by the merchants have induced most of them, latterly to resort to insurance for safety. The premiums for insurance in the spring and fall; the periods when most of the merchandise is necessarily upon the Lake, vary from half to one per cent and form no inconsiderable item in their bill. of expense.

The delay in forwarding the produce of the country, to New York, to obtain the advantage of an early market; occasioned by the accumulation of ice from the upper Lakes, in the harbour of Buffalo, until the latter part of May, is an evil of no small magnitude. It prevents the merchant, from obtaining his spring supplies at Cleaveland, from New York until about the first of June, and to still later periods, at the different points south and west, corresponding with their respective distances from that place: and he is then compelled almost immediately to make preparation for his fall supply, to secure it from the increased danger, of a late Lake navigation.

A delay of a few weeks, beyond the ordinary time, has frequently resulted in the storage of his Goods for the winter at Buffalo; or being driven past their destined port; they have been landed at Detroit, to await the opening of navigation in the spring.

The uncertainty of time, required for the transportation of merchandise across the Lake, occasions great embarrassments to mercantile operations. Vessels upon the Lake, by which most of the commerce of the country is carried on; are frequently compelled to lie in port days, and sometimes weeks for favorable winds; and the merchant in the interior, at a distance from the point where his goods are to be landed; is often put to the expense of keeping his teams abroad, waiting the arrival of his goods; or of returning without them.

The transshipment, and storage of produce, and merchandise; at Cleaveland, Buffalo, and Albany, necessarily retards their progress, & greatly enhances their expense.

These unavoidable contingencies of the present Lake route; added to its comparative distance already stated, must inevitably effect an entire change of the channels of communication, by which the whole commerce of the west, with the atlantic cities, now carried on through the Ohio canal, and Lake Erie, must pass through the Pennsylvania canal, whenever it shall become united to that of Ohio.

This result we consider as inevitable, in the present situation of the country, having reference to the measures already adopted, and in progress, for its improvement by rail roads and canals.

The benefits resulting to commerce generally, from this connexion, cannot well be estimated.

They will not be overrated however by stating that it will materially lessen the expense of transportation to the Seaboard and confer upon it additional security, certainty, and expedition.

These facts,* which cannot be controverted, must convince the most sceptical of the vast importance, of this union of the Pennsylvania and Ohio canals, to the States of Pennsylvania and Ohio, and to the cities of Philadelphia and Pittsburgh.

To exhibit to view at a glance, the immediate advantages which would result to Pennsylvania, were she alone to execute this work; we need only revert to official documents.

The Pennsylvania line of canal, is already extended to within less than ninety miles of the Ohio Canal: Surveys of different routes and modes of communication, have been made by skilful and experienced Engineers; and they have pronounced decisively, not only upon the entire practicability of the proposed connexion: but declare that it can be effected without any serious obstacles, and at a very moderate expense, not exceeding in amount in comparison with its distance, that of the Ohio Canal.

By refering to the report of the Ohio canal commissioners, made to the Ohio Legislature in January, 1833, we discover that the lower locks, connecting the Ohio Canals with the Ohio river, were not at that time completed, but were otherwise finished during that season, and that the total disbursement of the Board up to December 1, 1832; for the whole expense of both canals, including the expenses of surveys and wages of the Board, engineers and assistants—the damages awarded to individuals, for injuries sustained; and for the purchase of real estate, for the accommodation of water power; amounted to five million one hundred and sixty three thousand seven hundred and twenty five dollars.

The tolls and water rents collected from the

*See appendix.

canals during the year amounted to one hundred and twenty three thousand seven hundred and ninety four dollars; thus yielding an interest in its unfinished state, upon the capital expended; of more than two per cent.

From the collector of tolls, on the canal at Cleaveland, the following information has been received, under date of November 6 1833.

"The amount of tolls collected at this office "during the present year, up to the first instant. "is forty-four thousand and sixty-nine dollars. "up to the 1st of November last year, the amount "was twenty-five thousand nine hundred and "thirty six dollars and forty-four cents. The "amount collected at this office, the present year. "up to last evening. is forty-five thousand nine "hundred and thirty-five dollars. The amount "which will be received at Cleveland, the present "year; will probably exceed fifty thousand "dollars: last year it amounted to thirty-one "thousand seven hundred and ten dollars and fifty cents." Your committee, have not been able, to obtain information, from any other collector.

Relying upon this information alone, as to amount of tolls collected on the Ohio canal, last year, and its probable increase the present; it fully establishes this important fact; that were the State of Pennsylvania to expend the amount required, to unite these canals, she would not only secure the amount of tolls collected on this additional line of Canal; but an increased revenue, to the same amount; through every section of equal distance; along her extensive line already completed. The immediate returns of such an expenditure, estimated upon the amount of tolls collected, on the Ohio canal in 1832, would exceed ten per cent. upon the capital required; and its increase the present year, may be safely estimated at 50 per cent. It is only by looking prospectively to the period, when her projected improvements shall have been completed, when she will have opened to the west, an extended line of Canal, through her whole territory; interrupted only by the short portage across the Allegheny ridge, when the fertile regions of the western States shall have become populous like her own, that the advantages of this union can be fairly estimated. Then will her citizens discover that the benefits resulting from this enterprise, exceed human calculation.

To give some idea of the rapid increase of the commerce of the west, the following facts from the Cleveland Herald, of the 12th of September last, are inserted:—"In the "year 1825, the number of Vessels which arrived "at this port, was 75—21 of which were steam "Boats."

"The value of articles exported, that year, "amounted to fifty thousand one hundred and "sixty-six dollars. Imports one hundred and "thirty-two thousand six hundred and forty-five "dollars. The number of vessels which arrived "in 1829, was 314; of these ninety were Steam "Boats. The amount of property exported, "was two hundred and twenty two thousand dollars; that imported five hundred sixty eight thousand dollars. The number of arrivals in 1830, "was 775, and the business in proportion.—"Last year the value of commodities exported "may be estimated one million five hundred "thousand dollars; the imports at two million "dollars. The number of arrivals 1,070;—"of these 470 were Steam Boats. From the "transactions of the present year, up to the middle of last month; the value of exportations the "present year may be estimated at two millions "of dollars the importations at four millions seven hundred thousand dollars. Thus it will be "seen, that the value of our exportations, has increased in the short space of eight years, from "fifty thousand to two millions of dollars; and "the importations, from one hundred and thirty-"two thousand six hundred and forty-five dollars "to four millions seven hundred thousand dollars. "What a commentary is this upon the value of "internal improvements, and the resources of "this young but flourishing country. It speaks "volumes in favor of the growing importance and "value of this trade. It forms however when "compared with the aggregate business, of the "Lake and upper Lakes, which are constantly "pouring in their rich treasures upon her bosom, "but an item in the vast amount. This trade "which has been so rapidly advancing, has as "yet no settled route, or established market.—"Hence arises the anxiety of the different States, "to secure, while practicable the golden harvest."

The above quotation, not only shows the rapid increase of the commerce, of the western country;—but clearly evinces that at Cleveland,—located at the termination of the Ohio Canal on the shore of Lake Erie; the general opinion prevails, that the extensive trade of the upper Lakes, may be diverted to this safer, shorter, quicker, & less expensive route, to an eastern market. Many important facts, might be urged, to show; that this general expectation and belief, that the immense trade of the western part of Lake Erie, & the upper Lakes will be attracted to this route,—is well founded.

We will revert to some of them.

All the ice formed in the winter season, gradually moves down the Lake towards Buffalo; thus opening the ports of the upper part of the Lake; while the contraction of its banks as it

approaches the outlet retards the further progress of the ice, until it loses its tenacity, by the heat of the atmosphere, or is broken by the violence of the wind, and thus forced down the Niagara. The average time, of the opening of navigation, at Cleveland, up the Lake will not vary far from the first of April:—while the harbour of Buffalo, continues closed by the ice, until the middle of May.

Thus the merchants of Detroit and other sections of Michigan, could receive their spring supplies, and transport their produce collected during the winter, to market, six weeks earlier by this route, than by the New York Canal.

This reason alone, in the opinion of your committee, would induce them to take this route in the spring season, and having once formed an intercourse, in this direction with the atlantic cities; they could have no inducement, to change it in any other part of the year.

Another fact worthy of consideration, should not pass unnoticed. In the western part of Lake Erie above Cleaveland are numerous Islands: under the lee of which vessels can anchor, during the severest gales; while east of Cleaveland no such shelters are to be found and the entrance of the harbors being of such difficult access; that when overtaken by a storm, they are compelled to outride the gale and incur the danger, not only of being driven from their course, but wrecked upon the shore of this narrow sea. Thus it will be seen, that while the communication from the upper Lakes, to Cleveland, and thence by the Ohio, and Pennsylvania canals to the seaboard, is so much shorter; the danger of the route is also greatly diminished.

To the city of Philadelphia, it opens an immediate inland trade with a country bordering upon a canal of four hundred miles in extent, and will at no distant period, bring to her doors the commerce, of an hondred cities and villages. Should this connexion be formed, the city of Pittsburgh will then not only see her former customers, who have been for a time diverted to other cities, by the opening of greater facilities for business, returning to their accustomed market, but will find her various manufactures passing into the hands of entire strangers to be forwarded to distant villages, of which she has yet no knowledge. The condition of the present population of many sections of the country which will be opened to that market by the proposed project; the great inducement held out to them, by the fertility of the soil, to turn their attention wholly to agriculture, must for a long time to come, compel them to depend upon the nearest commercial and manufacturing market, where they can exchange the produce of their farms for either foreign or domestic goods, for their supplies of both.

Many of the most important articles manufactured in Pittsbugh, such as nails, Iron, and Glass, are peculiarly adapted to the wants of a young and growing country, and the numerous villages which are constantly springing up, along the whole line of the Ohio Canal; must furnish a ready market for them, to a vast amount. The reduced cost of transportation from Pittsburgh to the upper Lakes, by this connexion, will enable the manufacturers in that city, to supply those vast inland seas, with all their heavy commodities, such as Steam Engines, castings and iron, in all its various forms, at a less price than they can be obtained elsewhere. The article of salt, which is now brought from the central part of New York, (on which a duty is paid to that state) and which at the single port of Cleaveland, amounted to seventy thousand barrels the last year, might be supplied from the manufactories of Pennsylvania, at less prices, along the entire line of the Ohio Canal. Fish could be brought from the upper Lakes, and sold in Pittsburgh, at a much lower price than they now procure it, of any kind.

In regard to the prospect, which the proposed work, offers to capitalists, for a profitable investment of money; your committee have no other certain data to rely upon, than what has already been presented, in speaking of the amount of tolls, collected on the Ohio canal. From what has been previously stated, and a further reference to the report of the Ohio canal Commissioners; to the Legislature, at their last session, the following facts will appear. That the Ohio canals, were then in an unfinished state; that for a considerable portion of that season, the business of the canals was suspended, and interrupted, in the fore part of it, by there being various portions of them incomplete; and in the latter part of the season, by the prevalence of the Cholera along their borders; that the Locks connecting them with the Ohio river, were not finished, during the year: that the whole length of the canal exceeds, four hundred miles, that the entire amount of their cost including repairs, incidental expenses of surveys, wages, and sallaries is five million one hundred and sixty three thousand seven hundred and twenty six dollars; that in this unfinished state, the amount of tolls and water rents, received in 1832 was one hundred and twenty three thousand seven hundred and ninety four dollars being more than 2 per cent on the capital invested. If the office at Cleveland, (that being the only one from which returns for the present year, have been received) may be considered a fair criterion, to judge of its increase, it will then also appear, that the amount of tolls, and rents the current year must exceed three and an half per cent.

While your committee would be cautious

of intruding, their own opinions upon the public in this matter; they feel themselves warranted in believing, that whenever the proposed junction shall be formed; that the increased business of the Ohio canals, and the trade from the upper lakes, which will be attracted to this channel; together with the additional business it will create along its own borders, will be sufficient, to insure an early and adequate return, on the capital required, for its accomplishment, and that every succeeding year, for a long period to come, will find that return constantly and rapidly augmenting.

They also ask leave to call your attention to the opinion of the Ohio canal Commissioners officially expressed in relation to this connexion.

They say "It will unite with the navigation of "Lake Erie, at a point further west and longer "clear from obstruction, by ice, than any where "in Pennsylvania; and above all it intersects the "Ohio canal, before it strikes the Lake, and by "that means, precludes the necessity, of trans-"shipment, and avoids the danger, of Lake navi-"gation, as it respects the commercial inter-"course, between the State of Ohio, and the "Ports of the Delaware, and Chesapeake.

"Should the Pennsylvania and Ohio canal be "completed, we shall see an active commerce "carried on, between the city of Pittsburgh, and "the western parts of Pennsylvania, on the one "hand, and the country bordering on the Ohio "river, below the mouth of the Scioto, on the "other, through this canal, during those seasons. "when the water in the upper part of the Ohio "river is too low for steam Boat navigation.— "The profit of this work to the proprietors must "be commensurate to its commercial importance, "and it is believed to offer, one of the best op-"portunities for a profitable investment of capi-"tal, that can be found in the United States."

The above is signed by the seven Ohio canal commissioners Jan. 17, 1828.

It must be apparent to all that in a newly settled country, however populous and productive it may be; large amounts of money are not to be found, amongst their most wealthy or active business men. Their wealth consists in a great measure, in their wild lands, and cultivated farms; consequently the capital required, for an enterprize of this magnitude is not within their resources.

Many have been waiting, to invest all their funds at command, in the contemplated work, nor would the guarantee of a fair or even liberal annual return on such investment, materially augment its amount, in this section of the country. The first settlers of the western country, although enterprizing, industrious, and aspiring were not wealthy. The confident expectation of eventually receiving the reward of their toil and enterprize, first urged them, to secure within their grasp, an extent of territory, (then an uncultivated wilderness) equal to their utmost resources: and the certain prospect of rapidily enhancing its value; has subsequently induced them, to appropriate all their means & put in requisition, all their energies to improve it; by roads, manufacturing establishments, literary institutions, and other works of public utility; by which the older states from whence they emigrated, have acquired their present preeminence in the moral and political world, and shed such lustre upon our common Country.

Hence it is apparent, that reliance must be had upon monied capitalists, for the accomplishment of this work. In this, as in all similar cases, requiring large investments, we must look abroad, for the necessary funds.

On motion, the Report was laid on the table.

Mr. Biddle of Allegheny county, from the Committe on Charters, made the following

REPORT:

That with a view to render the action of this convention effectual, a careful survey ought now to be taken of the means by which each proposed scheme of operation may be carried into effect. It is better, if any impediment exist, that it should, at once, be looked to and provided for, than that it should hereafter unexpectedly start up, to create alarm and distrust amongst those whose co-operation is indispensable, and to shake public confidence in the wisdom and forecast of this Convention. Under those impressions the Committee submit the following statemen and remarks.

The Act of Incorporation of 'The Pennsylvania and Ohio Canal Company" by the Legislature of Ohio bears date January 10, 1827. The second section is as follows:

"Sec. 2. That the said corporation be, "and they are hereby authorized, so soon as "the Legislature of Pennsylvania shall give "their assent to the provisions of this Act, to lo-"cate, make, construct, and forever maintain a "*navigable Canal*, with all necessary locks tow-"ing paths, basins, aqueducts &c. commencing "at such suitable point on the Portage Summit "of the Ohio Canal, as the Ohio canal Commis "sioners shall direct, thence to the waters of the "Mahoning River, and thence to meet or inter-"sect the Pennsylvania or Chesapeake and Ohio "Canal at or near the City of Pittsburgh in the

"State of Pennsylvania: with liberty *in case that* "either of the said Canals, shall be continued "from Pittsburgh down the Ohio river and up "the Valley of the Big Beaver, *then* to intersect "either of said canals constructed as aforesaid "at the most suitable and convenient point."

The twenty fifth section of the Act is in these words:

"Sec. 25th. That if the Coporation hereby "created shall not within ten years from the time "of the taking effect of this act, construct, finish, "and put in operation the *canal hereby contem-"plated*, or, if, after the completion thereof, they "shall fail for twelve months at any one time, to "keep the same in repair, then, or in either case, "the said Corporation shall thenceforth forever "cease, and their Charter be forfeited."

The twenty sixth Section provides that the "taking effect," of the Act shall be from the date of the Act of Pennsylvania giving her assent and confirmation.

It is obvious that this Charter stipulates for an unbroken *canal* communication, within a prescribed time, between Akron and Pittsburgh. The Company escapes from the obligation to complete the entire route only on condition that the part *from Pittsburgh down the Ohio river to the town of Beaver* and thence up the Big Beaver, be executed by the state of Pennsylvania, or by the Chesapeake and Ohio Canal Company.

The portion on the Big Beaver may be considered as finished, but along that part of the route which lies between Pittsbutgh and the Town of Beaver there is, at present no fixed purpose, in any quarter, to make a canal.

The responsibility therefore, to make it yet remains on the Company, coupled with the right to execute and use the cross-cut from Akron to New-Castle. The terms of the charter are too plain for mistake; and the results anticipated from the work plainly show what was in the contemplation of the Legislature.

Thus, in a Report of the Ohio Canal Commissioners it is said:—

"Should the Pennsylvania and Ohio Canal be "completed we shall see an active commerce "carried on between the city of Pittsburgh and "the western part of Pennsylvania on the one "hand, and the country bordering on the Ohio "river below the mouth of the Scioto on the oth-"er through that canal and the Ohio Canal, dur-"ing *those seasons when the water in the upper "part of the Ohio river is too low for steam "boat navigation.*"

And in the same Report a sanguine representation is made of the advantages to the farmer of Ohio from this uninterrupted navigation towards a market in his own canal Boat

It is clear that a canal which terminates at Beaver, leaving the Canal Boats to be towed up thence by Steam Boats and even this, practicable only at certain stages of the Ohio river is not the "Canal contemplated" by Ohio, and in reference to which she gave to this Company a right to enter on the private property of her citizens. Should such a limited work then be resolved upon, to be executed under this charter, it seems to be indispensable to the safety of the stockholders that the obligation referred to should be distinctly contemplated and provided for.

This view of the extent of work to be done as the charter now stands, renders the question of *time* a material one. The Canal contemplated by the Act must be finished and put in operation by April 1837, being ten years from the date of the confirmatory Act of Pennsylvania. This would allow about three years for the completion of the whole from the time when operations can, on any reasonable caculation be commenced.

There is nothing, it is believed, in the subsequent legislation on the subject of this canal which relieves the Company from the obligation originally imposed.

On the 14th April 1827 the Legislature of Pennsylvania gave its full and entire assent to all the provisions of the Charter, declaring, however, that it should not be lawful for the said Company "to commence the said Canal "in Pennsylvania, until after the Board of Penn-"sylvania Canal Commissioners shall have fixed "the point for the eastern termination thereof."

By a Supplement to this Act, passed 7th February 1828, seven corporators are added to those named in the original Charter, provided the Legislature of Ohio assent to such addition, and on the 2d February 1829 the Legislature of that State gave its assent accordingly.

It has sometimes been loosely taken for granted, that, the provision in the confirmatory act of Pennsylvania which suspends operations in that State, until her own Canal Commissioners shall fix the eastern termination of the work, might enable the latter to make a location substantially at variance with that indicated by the Charter, and yet binding on Ohio. But this view of the subject will not bear the slightest examination. The clause is one of restraint, not of enlargement, and requires a reference to the Canal Commissioners of Pennsylvania to indicate the actual point at which the two Canals shall come together, and form the continuous line to Pittsburgh, not to supercede the necessity under the Charter of such continuous line. The only action in reference to this subject on the part of the Pennsylvania Canal Commissioners was in December 1829,

when they passed the following Resolution.

"*Resolved*, that *whenever* the Legislature of "Pennsylvania *shall* authorise the construction "of a *Canal, from Pittsburgh* to Erie on the "route as reported by a Resolution of this Board "at their present session, the eastern termination "of the Pennsylvania and Ohio Canal and its "connexion with the Pennsylvania Canal, in the "opinion of this Board *should be* fixed at a point "at or near the mouth of the Mahoning, to be "designated by a principal Engineer in the em-"ployment of Pennsylvania, and under the direc-"tion of the Board of Canal Commissioners."

It need scarcely be remarked that the *opin ion* thus expressed as to what *should be* the fu ture location under certain contingencies is not the location called for by the Act, even admitting, for a moment, that such location could disengage the Company from the obligation imposed by Ohio. The Resolution, moreover, plainly discloses the view of the Canal Commissioners themselves that such a location would be altogether nugatory unless in connexion with a Canal *from Pittsburgh*, such as is stipulated for in the Charter of Incorpo ration.

Under the general terms of reference to the committee, it only remains to state, that, the sanction of Pennsylvania to the Charter by Ohio of "The Little Beaver and Sandy Creek Canal," has been forfeited by efflux of time; and the Charter of the Massillon Rail Road has not yet been confirmed by that State.

On motion the report was laid on the table.

On motion of Mr. Baldwin of Trumbull county, the Convention adjourned till to-morrow morning at nine o'clock.

FRIDAY, NOVEMBER 15.

The Convention met pursuant to adjournment.

Mr. KING, of Trumbull county, from the committee appointed under the second resolution for the counties of Trumbull and Portage, made the following report, in writing, which, on motion, was ordered to lie on the table.

The Committee from Trumbull and Portage counties, upon which in part devolved the duty of presenting to this convention, the comparative advantages, of the various routes, proposed for a connexion between the Pennsylvania and Ohio canals respectfully

REPORT;

That while as friends and neighbors, citizens of the same community, they sincerely regret the necessity of this unpleasant duty yet urged by strong sensations of the justice and propriety of the measure, and impressed with deep convictions of the obligations they are under to the section of country, more immediately interested, in the decision of the question at issue; to this numerous assemblage convened from distant parts at this inclement season, to the important commercial interests involved, and to the public at large, to exhibit fairly, candidly, and correctly the essential and important advantages, which any one of the proposed routes, offers to the public, and to those who may hereafter become interested, in its prosperity, or adversity, they have proceeded to the discharge of the trust reposed in them fully sensible of all its responsibilities.

Disclaiming at the outset all intention, of impeaching the sincerity; or capacity of the authors of any representations, or calculations, in regard to either of the proposed routes, they have when compelled to dissent from their known and expressed opinions, stated the reasons of such dissent, & whenever in their power, given documentary or other authority entitled, as they conceive, to greater weight.

We consider the following positions will be admitted as true by, every person who understands, the geographical situation of the territory referred to.

First: That let the proposed connexion be formed at Boliver, Massillon, or Akron the commerce of the whole country, included between that line of connexion, the Ohio canal and the Ohio river, will as certainly pass through any one of the routes as the other; provided there is but the one, and the mode of conveyance is the same: It cannot escape elsewhere. It cannot be pretended, that the counties of Columbiana, Stark and others will be led or driven to any other markets by the union of the canals at Akron. They would all be encircled within these lines, & thus precluded from reaching any other commercial city than those of Pittsburgh or Philadelphia without crossing one of these great thoroughfares.

The same reasons will apply with equal force, to the whole country bordering upon the Ohio canal, and whatever may be introduced upon it south of this line of connexion whether it be by rail roads from the Ohio canal, passing westward to connect it with other improvements, or by turnpikes and highways. They will all operate as channels of communication, to the Ohio Canal, the great receptacle of western commerce. The idea that whatever approximates so much nearer the lake, as the distance from Massillon to Akron, or twenty eight and a half miles is in peril of being attracted to its waters, is wholly destitute of any reasonable foundation. The lake possesses no such fascinating power as to be able to attract a Boat, thirty eight miles up the Ohio canal, and compel it to discharge its cargo, into a warehouse on its shore. Experience has long since taught us to believe, that its influence

was repulsive, and that instead of alluring to its bosom the floating commerce of the canal, its terrific character would drive into the nearest port of safety whatever was borne upon its own surface. But supposing such an occurrence should take place, and that a Boat should be seduced from her proper course, and pursue this devious way. Let us trace, for a moment the adventures of her cargo. Leaving the quiet waters of the canal, it would find itself safely transferred into a warehouse at Cleveland; there to repose until a propitious wind should enable a vessel to receive it; when, after satisfying the demands of this act of courtesy, and paying a tribute by way of insurance, it would progress on its way towards Buffalo, where it would undergo another warehouse transition and exaction, and after a loss of from three to ten days, incurred by these operations, it would then find itself snugly stowed away, in a vehicle very much resembling the one in which it was first attracted, again on its way to market, but which it would find had during these transactions, receded about fifty miles further from its own present location, than the one from which it was first allured at Akron.

Persons acquainted with the danger and delays of the Lake navigation, must admit that this representation would fall short of the truth, as to the time of delay, in numberless instances within their own knowledge.

It is too unreasonable to suppose, that a Boat ascending the Ohio Canal from the South, seeking an eastern market, would be induced to take the junction canal at Boliver: or passing still further up the Ohio Canal to Massillon, would there unlade her cargo, for the purpose of having it transported on the rail-way, that would not with equal certainty, still ascend 28 miles further up the Ohio canal, to Akron and from thence proceed on the Mahoning canal towards her place of destination. Arguments are superfluous to establish this fact. To doubt it is to doubt the policy of any connexion whatever.

This being conceded, it then becomes manifest that there could be no loss of business from the south, by forming this connexion by the Mahoning route.

Second. That the more territory you can bring within the circle or influence of the proposed improvement, at the same or a less expenditure of capital, the more business will be created and secured, and the more profitable must be the investment.

By taking the Mahoning route, this influence will be extended to the counties of Trumbull, Portage, Geauga and Ashtabula. They comprised a population at the last census, of more than 75,000, an amount nearly equal to one twelfth of the state of Ohio; and the return of the Auditor of State, for 1832, will show that they have paid more than one eleventh part, of the whole tax collected by the state, and also that two of them through which the Mahoning canal would directly pass, exceed in taxable property, the counties of Columbiana and Stark. The average distance of WARREN and RAVENNA, the seats of Justice of Trumbull and Portage counties, from the lines of Ashtabula and Geauga counties is about fifteen miles, and the proposed canal would pass through both of those towns; thus showing the proximity of this route to those two counties.

That these four counties, are cut off from participating in the benefits, resulting to other sections of the state, by the Ohio canal; that they will also be precluded from the advantages of the proposed improvement, should it take the southern route; and that the want of greater facilities of commercial intercourse, between their section of country and Pittsburgh and Philadelphia, has compelled them to seek other markets, is readily admitted. But that the union of the Pennsylvania and Ohio canals at Akron will effect an entire change in their commercial transactions, is no less certain, nor can we admit, notwithstanding the numerous publications to that effect, that our commerce will be less valuable to Pittsburgh and Philadelphia, than that of the counties of Columbiana, Stark and others adjoining.

For these reasons alone, were there no other, we think the interests of Pennsylvania, Philadelphia and Pittsburgh, as well as of the proprietors of the work, would urge them to locate the proposed canal so as to secure the commerce of this additional territory to their citizens, and the consequential increase of revenue on their investment, more especially when it may be done without danger of sustaining any loss from other sections, and at an expense materially lessened.

It may be proper here to remark, that your committee are wholly unapprized, which of the two southern routes our friends from that section rely upon. They therefore deem it their duty to bring them both into view.

The route of the Sandy and Beaver canal was surveyed in 1828 by Maj. Douglas of the military academy at West Point. In his report, dated 1830, he makes the distance 90 1-2 miles from the Ohio canal to the west bank of the Big Beaver. The Lockage 651 2-3 feet. One mile of this line requiring a tunnel and deep cutting is estimated to cost one hundred and twelve thousand four hundred and three dollars. The

estimated cost of the whole is one million two hundred and ninety-two thousand four hundred and sixty-five dollars. The summit level is 20 miles* in extent. He comtemplates the construction of this level, with an extra depth of three feet, for the purpose of making a reservoir for about ten millions cubic feet of surplus water for the driest seasons. He is able to introduce from other sources, on to this level such a quantity of water as in the aggregate including the reservoir, to furnish it with 886 cubic feet per minute for 60 days in the driest season. Of this quantity, 120 cubic feet per minute are allowed for leakage at the gates, and he considers that 22 cubic feet per mile per minute will be sufficient to supply the loss sustained by soakage and evaporation, by reason of the good quality of the soil to retain water. This quantity being expended, leaves 326 cubic feet per minute for lockage.—This supply is calculated by him to be sufficient to pass 38 1-2 boats per day. To meet any increase of business demanded beyond this, resort is had to the middle Fork of Little Beaver—a stream depended upon for the Eastern division, from which by a steam engine placed 68 chains from the line of the canal, 460 cubic feet per minute is to be raised from the depth of 125 feet. and introduced into this level. This would increase the aggregate supply to 1346 cubic feet per minute for this line of 20 miles.

If we compare these calculations with those made by other Engineers, from long practical experiments, upon the New York canal, we can form an opinion whether they can be relied upon, with certainty.

The Ohio canal commissioners, in their report in 1824 say "That considerable exertions have "been made by the acting canal commissioners, "to ascertain the quantity of water expended on "the different sections of the New-York canals "which are the great school of the United States "in the science of canalling. The result of those "inquiries is given."

After refering to various sections of that canal, on which experiments had been made they come to the following conclusion. "If "we suppose that where a canal is constructed "on favorable ground, well calculated to prevent "the escape of water, after a use of some years, "*that an average of 75 cubic feet per minute, for "each mile*, will be sufficient to supply the loss "occasioned by evaporation, leakage, filtration "and absorption, we shall probably not be far "from the truth."

*This distance refers to the supply of water only.

In the report of Col. Kearney, U. S. Engineer who surveyed the Mahoning route we find the following statement:

"Assuming then *agreeably to the calculations "of the Board of internal Improvement* that a "canal of forty feet average breadth at the wa-"ter line and carefully consrtucted, *may be esti-"mated to waste by filtration and evaporation fifty "eight and thirteen hundreths cubic feet of water per mile per minute.*"

If we take the estimate of the Board of Internal Improvement for our guide, as to the quantity required for evaporation and filtration, and allow the same quantity as Maj. Douglas, for leakage at the gates, we shall find that the aggregate amount of water, which can be introduced upon this line of canal for 20 miles, by the reservoir, streams, and steam engine, will exceed the quantity demanded for those three objects alone, by no more than 66 cubic feet per minute.

Thus: twenty miles requiring for evaporation and filtration fifty eight cubic feet per mile per minute would be	1160 feet.
For leakage at the gates	120 "
Whole expenditure for these objects	1280
Whole supply only	1346
Residue	66 feet.

If the estimate of the Ohio Canal Commissioners, derived from practical experiments and observations made on the New York canal at various sections, and in different seasons, is to be relied upon as to the quantity of water necessary, "*to supply the loss occasioned by evaporation leakage filtration an "absorption, on a canal constructed on ground "well calculated to prevent the escape of water,*" then we are driven to the necessary conclusion that the reservoir and all the streams which could be brought upon this summit level, by Maj. Douglas' calculation, aided by the whole power of the Steam Engine, will be inadequate to this task alone. For 75 cubic feet per mile per minute for 20 miles canal would amount to one thousand five hundred feet, and the quantity thus obtained is only one thousand three hundred and forty six feet.

With this exhibition of facts in relation the Sandy and Beaver canal drawn from report of Maj. Douglas the engineer who veyed it, after stating that the amou lockage, is more than one-third great it terminates on the west bank of the I that its estimated expense is more tha ty five per cent higher without par

Beaver, than the Mahoning canal would be we shall leave its further comparative merits with its advocates and the public.

In relation to the proposed rail road from Massillon to Beaver, many of the preliminary observations already made will forcibly apply.—That it would attract to Pittsburgh or Philadelphia any additional commerce, than what they now receive or would receive through the Mahoning route, is as your committee believes wholly inadmissible. That travellers passing that point destined to Pittsburgh or Philadelphia would more readily take that route, than the Mahoning canal is freely admitted.

But that any great portion of *them* would leave the Ohio river or be attracted to that point from any great distance for the purpose of securing the benefit, arising from one day's journey upon it, is to say the least very questionable.

That a rail road from one central point of travel to another offers great facilities to travellers is conceded. But such a communication between two canals, or navigable waters, although it might lessen the distance, still it would not attract the commerce between them, if a canal communication was available. The experience derived from witnessing its effect, on the Albany & Skenectady rail road, which has been in operation for several years past, exemplifies the truth of this position.

The distance between those two cities, by way of the Erie canal is doubly that of the rail road. The canal likewise by reason of its rapid descent into the valley of the Hudson, upon that section between those places, is more retarded in its operations by numerous Locks than perhaps any other section of equal distance, of its entire line.

Yet it is a fact well attested, that the rail road is wholly unable to compete with the canal, for the transportation of merchandize or produce, and is entirely dependent upon travellers alone, for its business and revenue.

The superior advantages of canals over rail-roads, for the purposes of commerce, are fully exemplified and forcibly illustrated, in the report of the Board of canal Commissioners of Pennsylvania, made to the Executive of that state in 1831; we beg leave to refer to it. The report was here read.

If these statements, derived from practical knowledge, are to have any weight in settling the question, of the comparative merits of canals and rail roads, where the former are attainable how apparent then must be the impolicy of substituting the latter for the former, as the channel of communication between the extensive lines of the Pennsylvania and Ohio canals; when an additional territory equal in wealth and population to one twelfth of the state of Ohio can be secured by the canal, and lost by the rail road, and the expense of the former in comparison with the latter being as two to three.

In a short treatise upon canals and Rail roads, published in New York, the author says, "No local policy should check enterprize here "because a similar work was not to be carried "on there at the same moment. There must be "a beginning some where and an improvement in "in one place will tend to encourage it in anoth-"er. As a canal extends in length, it embraces "in a kind of geometrical ratio, a greater and "wider extent of country. For the benefit of the "first ten miles of its navigation, the inhabitants "residing within a short distance only, will avail "themselves of its conveyance.

"If its length be twenty miles it will attract "from all sides those doubly distant from "its bank, and at forty and eighty in like "proportion, because a long course of land car-"riage, will willingly be encountered for so ex-"tensive a conveyance by water.

A pamphlet has been recently published, in Pittsburgh calling the attention of the public to the subject now under consideration, to the candid and able author of which, they are under the most strong obligations, for his laborious researches and investigations. In publishing the statements of others upon this subject; however, many erroneous impressions must have been made upon the public mind.—It is true that by Col. Kearney's survey, locating the canal upon the right bank of the Mahoning, and thereby carrying it around the great northern bend of that stream through the village of Warren; the distance from Akron to New Castle exceeds ninety two miles. By the survey however made under the direction of the Ohio canal Commissioners, and on which the estimated cost is predicated, the canal is located upon the other bank of the stream, where leaving its immediate valley, at the great bend, it passes in a right line through an even country, along the high way, upon one level, until it again approaches the river below the village of Warren; thereby lessening the length of the line, as suggested in Col. Kearney's report.

From Akron to the Ohio state line, by this route is seventy five miles seventy three chains; from thence to New Castle in a right line is between six and seven miles, but as this particular route has been surveyed no further than the state line, we will suppose it to be eight miles, and from New Castle by the Beaver canal to Beaver is twenty four and three-fourth miles.

If to these several distances we add the distance, from Akron to Cleveland, being thirty eight miles, we find the whole distance from Cleveland to Beaver, by the Mahoning route to be 146 and an 1-2 miles. The distance from Cleveland to Massillon is sixty six miles and a half, from thence to Boliver fourteen and a half miles, from thence to Beaver, by route of Major Douglas' survey, ninety and a half miles, in all one hundred seventy one and a half miles, making the distance between Cleveland and Beaver, about twenty five miles in favor of the Mahoning route.

That the most northerly bend of the Mahoning canal is "about" sixty nine and a half miles further north than the most northerly point of the Sandy canal, is also a mistake. The most northerly points of both, are at New Lisbon and Warren, thirty five miles apart.—By comparing the distances here given, from various points on the several routes, it will be found that the Mahoning canal route and the rail road route, from Cleveland to Beaver are of nearly equal distances.

It is however freely admitted, that the rail road from Massillon to Beaver, offers a shorter channal of communication between those points and consequently to the section of canal south of them, than the Mahoning canal. This difference in distance, opened to the southern section of the Ohio canal only and which your Committee deems to be the only possible advantage it could offer to that or any other section, were the modes of conveyance the same, would be greatly overbalanced, by passing through a region of country otherwise beyond its reach and influence, which the statistical documents of the country show, is not surpassed in productiveness, wealth, and public improvements, by any section bordering upon either of the southern routes.

But when we take into consideration, the change of the mode of conveyance, and instead of uniting by a link of the same character and capacity, two chains of canals each of which are more than three hundred miles in length, you substitute for this connecting link, any other tie, it must greatly obstruct the facilities of commerce, cause needless expense and vexation, & detract largely from its general utility.

It may perhaps be said, that Pennsylvania has not extended her line of canal to the distance here stated; that the proposed canal by the Mahoning route will only join a small and detached section thereof; and that there is no certainty that her canal will be extended from Beaver to Pittsburgh.

To this we would reply, that Pennsylvania like all other states will be governed by what she deems to be her true interests & that when she beholds as she inevitably must in the event of the completion of this junction; the accumulated productions gathered from a country, to say no more, of equal extent with her own; floating from the far west; and pouring in upon her own borders, through the channel to which she has invited them; demanding the same conveyance to her capital, their demands will be heard. The united voice of the whole western country will demand it, and above all her own interests will demand it, and to her voice, when well understood, she has never been known to lend an unwilling ear. They will say in language that cannot then be misunderstood, that Pennsylvania must construct a canal from Beaver to Pittsburgh; and what Pennsylvania must do, she will do.

It is admitted to be practicable and at no very extraordinary expense: and this your committe firmly believe will be the event of the construction of the canal through the Mahoning route. Whosoever will take a glance at the map of our country, and bear in mind the works already completed, and the efforts which are still in full vigour, to open further channels of communication from the seaboard to the west, must perceive at once the central, though as yet circumscribed position she occupies in relation to them. She is environed on every side by these extending lines which subserve the double purpose of cutting off her foreign commerce and of draining her own resources.

While Baltimore and Washington with their utmost energies have been urging forward their rail road and canal along her southern border to the Ohio river and thus turning the streams of her commercial prosperity into their own harbours, New York on the north has extended her inland navigation to the great Western Lakes; Ohio has opened as it were her great reservoir for the reception of her commerce and that of her sister States at the west, and seemingly invites the central state of Pennsylvania to extend her line of canal and receive it.

But supposing that such would not be the result, and that reliance could be placed upon no greater facilities than now exist; which would be the most elligible course for a boat to pursue laden with a cargo of produce on the Ohio canal, destined to Philadelphia. Would it be more likely to stop at Massillon, and there unlade its cargo, that it might be transported 80 miles to Beaver, towards its place of destination, when it might proceed on its voyage twenty eight and an half miles to Akron, and there to use the language of the author of the pamphlet spoken of, "turn aside and make its "way to the Town of Beaver and from this point "be towed up the Ohio River to Pittsburgh; join "the Pennsylvania canal and proceed to the foot "of the Allegheny."

"It could there secure a return cargo, and "transport it to the Ohio canal, dispensing with

"artificial aid in its descent from Pittsburgh to "Beaver." The expense of towing a Boat from Beaver to Pittsburgh not exceeding one Dollar per ton.

Your committee firmly believe, the latter alternative would uniformly be chosen.

The State of Pennsylvania also has an interest in the execution of this work to the extent of the revenue she would receive on the Beaver canal, by the introduction of this additional trade. The proposed rail road would be more likely to subserve the interests of the Baltimore and Ohio rail road, and turn the current of business to that city!

With regard to the expense of the two projects, the rail road and the Mahoning canal—the former is eighty miles in length from Massillon to Beaver, and its estimated cost by the Engineer who surveyed it, is from eighteen to twenty thousand dollars per mile.

Taking the medium of these estimates it would cost one million five hundred and twenty thousand dollars.

The Mahoning canal has been surveyed by experienced Engineers, under the direction of the Secretary of War, and also by those under the direction of the Ohio Canal Commissioners.

Both report the route as highly favorable, and that an abundance of water is of easy access. Col. Kearney's survey makes the tota amount of Lockage three hundred and ninety feet from Akron to New Castle; the whole length of the line between ninety two and ninety three miles, but suggests that it would probably be shortened when constructed.—The summit level is between seven and eight miles. His calculations for the necessary quantity of water to supply the loss by evaporation, and filtration, are based upon the same principles which when applied, to the summit level of the Sandy and Beaver canal, left but 66 cubic feet per minute to supply a line of 20 miles.

A Table exhibiting the quantity which may be introduced into the canal, upon its various levels, the names of the streams, by whom measured, when measured; and also the streams which are of easy access but not measured because not required, will be annexed to this report, with the remarks of the United States Engineers who measured them. The estimated expense of that portion of the Mahoning route, located in Ohio, including the bridges required for the accomodation of public roads, being seventy five miles seventy three chains in length, is seven hundred and sixty four thousand three hundred and seventy two dollars and ninety eight cents. This estimate was made by a practical Engineer who had then been for three years engaged in the construction of the Ohio canal, and after careful examination by the Ohio canal Commissioners, by them reported to the Legislature. The original manuscript in which the whole line is divided into small sections, and the amount of labor required upon each station, distinctly given in detail, with the prices for such labor affixed, is in the hands of a member of this convention, and open to the inspection of all desirous of examining it. The small portion of this route lying in Pennsylvania, which if it should intersect the Beaver canal three miles below New Castle would be about 11 miles, has not been thus estimated.

By the report of Col. Kearney it corresponds with the other sections adjoining, and is of a favorable character for canalling. It is confidently believed by those who have examined Mr. Dodge's estimates, and the balance of the route, that the whole expense of constructing a canal from Akron to intersect the Beaver canal, at or near New Castle, may fall short of and will not exceed one million of dollars.

We subjoin an extract from the report of the Ohio canal Commissioners, made to the Legislature in 1828 in relation to the survey, cost & utility of the Pennsylvania and Ohio canal, by which name the Mahoning route is designated. In speaking of Mr. Dodge, the engineer who made the survey and estimates, they say "From "the experience which Mr. Dodge has had, as "an Engineer, for three years past, in the "actual construction of part of the Ohio canal, "as well as from his science and intelligence, "the Board are warranted in placing full con-"fidence in the general correctness of his "examinations, plans, and calculations. The "route within this state has been found fully "as favorable as was anticipated; and it has "been ascertained beyond a doubt that the sum-"mit, as well as the lower levels, can be abund-"antly supplied with water. The estimated "cost of canal and feeders is as follows:—

"Cost of main canal from "Akron to Pennsylvania "line is	$683,762 69
"Feeder from main Cuyaho-"ga including reservoirs of "Brady's Lake and Lake "Pippin,	50,932 95
"Reservoir and feeder from "Muddy and Sand Lakes,	20,249 24
"Feeder from Mahoning at Warren,	4,031 00
"Breakneck feeder,	5,397 10
"Aggregate cost of canal, "Reservoirs, and feeders,	$764,372 98.

"The foregoing estimates were made under "the immediate inspection and advice of the "principal Engineer. The amount includes ten "per cent on the nett estimate for unforeseen "expenses, and it is believed will fully cover "the actual expense of the work."

"Of the commercial importance of this "canal when finished, no doubt can be enter-

"tained by those who understand the interest "& geography of our country; the route passes "through one of the best settled and most "wealthy districts of our state; and when "executed, it will together with the Ohio canal, "open a direct channel of commerce, be- "tween the interior of Ohio, and the great "manufactu ring and commercial city of Pitts- "burgh, together with the whole of West "Pennsylvania."

"To the interests of Pennsylvania, & of those "engaged in the Chesapeak and Ohio canal, as "well as to Ohio, the proposed canal is of the "first importance. It is the most advantageous "route between Pittsburgh and Lake Erie; "the most direct from the western parts "of Lake Erie, Detroit, and the north "western Lakes, to Pittsburgh, Philadelphia and, Baltimore.

"The profit of this work, to the proprietors "must be commensurate to its commercial "importance, and it is believed to offer one "of the best opportunities for a profitable in- "vestment of capital that can be found in the "United States.

Signed by the whole Board of Ohio canal Commissioners.

This statement of facts, in relation to the comparative merits of the proposed routes; a great portion of which has been gathered from official documents, put forth by those who occupied at the time stations of high responsibility and whose opinions were given under the obligations imposed upon them, by the duties of their office, we submit to this convention, and to the public, with a confident reliance upon their competency and ability, as well as their wisdom and integrity, to do justice to themselves and to the communities immediately interested in the decision of the important question at issue.

NOTE.

☞ It should be observed that the following table contains the quantity of water available from the running streams only; that the Cuyahoga, affording Eight hundred cubic feet per minute, is not inserted because supposed not necessary; and the Lake reservoirs estimated to contain three hundred twenty-five millions cubic feet for the dry seasons are wholly omitted.

Table exhibiting the quantity of water afforded by the following streams.

Report of Captain Mc Neill.

Names of Streams.	When measured.	Where measured.	Quantity of water per second in cubic feet.
Cuyahoga river	1825, August 2	At the rapids -	127.7 by a float.
Do. -	26	Do. -	30.
Do. -	September 8	Do. -	41.
Silver creek -	August 2	Garrett's mill -	8.57 orifice.
Do. -	2	Do. -	9.41 by a flat.
Eagle creek -	24	Near its mouth -	18.7 do.
Mahoning river	3	Warren -	96.11 orifice.
Do. -	September 12	Do. -	45.615 do.
South Branch -	August 25	Price's mill -	56.35 float.
Do. -	26	Do. -	34.577 do
West Branch -	23	Stanley's mill -	43.24 ($\frac{1}{2}$ to be relied on.)
Do. -	September 13	S. E. corner Ravenna	15.608
Big Meander creek	August 3	Mouth	.7502 dam.
Big Meander creek	September 8	Do. -	89 do.
Mosquito creek	8	Do. -	Dry.
Do. -	9	Do. -	4.007 (rain.)
Crab creek -	10	Do. -	3.4 float.
Four Mile run -	9	Do. -	0.0133 float.
Mill creek -	9	Do. -	.92 do.
Yellow creek -	9	Poland -	Dry.
Spring run -	9	5 miles from Poland	.5 float.
Squaw run -	9	Mouth -	4. do.
Breakneck creek	15	Woodward's -	3.144 nearly lowest stage.
Mahoning river -	13	S. E. corner Ravenna	15.608.

From Lieutenant Dumeste's Report.

Cuyahoga river	1827, October 13	Mason's mill -	30.7 probable minimum.
Barrel run -	1828, July 30	Do. -	0.827.
Mahoning, West branch	26	Ball's mill dam -	1.408.
Mahoning, West branch	August 7	Newton's -	6.05, August 14, rain.
Mahoning, West branch	September 10	Warren -	85.4 nearly, float.
Hinkley creek	July 30	Do. -	Dry.
Eagle creek	August 25	Confluence -	27.139.
Breakneck creek	1827, Sept. 15	Woodward's mill	4.169, at night Saturday.
Do. -	16	Do. -	4.169, Morning Sunday.
Do. -	16	Do. -	3.412, evening Sunday.

The only notice of rain in the field notes, from July 18, 1828, to October 9, 1828, (a period of 74 days,) is on the 14th August and 3d of September. On the 27th September, the Mahoning was said to be at its lowest stage. During this period the survey was progressing by the valley of the Mahoning towards its junction with the Beaver.

From the Report of the Board of Internal Improvement

Silver creek -	1824, August 7	East Branch, Stephen's mill -	0,664	6.070
Do. -	7	West Branch, Garrett's mill -	5.406	
Cuyahoga river	8	Rapid of Hiram -	56.148.	

The engineers in their report to the State of Ohio, estimate the Cuyahoga as yielding 4,000 cubic feet of water per minute. This is the result of Judge Bates' measurements.

Mr. Robertson, of Columbiana county, from the committee appointed under the second resolution, for the counties in Ohio, lying south of the Western Reserve, made the following report, which was laid on the table :

The Committee appointed under the second resolution of the Convention held at Warren, Trumbull County Ohio, November 13th, 1833 for the Counties of Columbiana. Stark, Wayne, Tuscarawas and Carroll have had the subject of said resolution under consideration and ask leave to make the following

REPORT;

That, owing to the haste with which the respective delegates convened, some of them not being apprised of their appointment but a few hours previous to their journey and all being under the impression that their chief object in convening was for the purpose of obtaining an interview with the Pennsylvania delegations, and inviting them to give a personal examination of their respective southern routes at which time they calculated to be able to furnish them with the facts relative to their claims.

They have therefore come forward before this convention utterly unprovided with that species of documents and data by which their claims could be laid before this convention in their full force: the only documents at the command of the committee being the reports of Major D. B. Douglass and Lieutenant O. Mitchel contained in a Pamphlet entitled "documents relative to a communication between Pittsburgh and the Ohio canal" to which we refer and which we desire may be appended as a part of this report.

Major Douglass as an engineer sustains a character of the highest grade: we rely with implicit confidence on the facts embodied in his report; nothing that has transpired since, has diminished our reliance upon the truths contained therein but every year's observation confirms them.

It is probably well known to this convention that two modes of communication have been suggested embodied under the designation of southern routes. The one by a canal commencing at or near the mouth of Big Beaver terminating at or near Bolivar on the Ohio canal; the other by a Rail road pursuing the same line on the Eastern Division but terminating at Massillon on the Western Division.

The comparative advantages that either of these routes and modes of communication would present to the country at large, and more especially to those who would choose to make an investment of funds for their construction we are not prepared to report. The practicability of constructing either of these modes of communication we deem fully established and at an expense not exceeding that of works of a similar nature of equal extent. Should it be deemed advisable to construct a canal on the course designated, an important question will naturally arise as to the supply of water. Your committee have been advised that doubts have been expressed as to an adequate supply upon the summit.

This probably originated from a report of the Ohio Canal Commissioners in 1826, an extract of which may be seen in the pamphlet before referred to, Page 14;—which doubts may have been perpetuated by these who had local interests to subserve: in said extract your committee find it stated that Joshua Mahlin Esq., an engineer of considerable experience was employed to make such surveys as were made with the view of ascertaining the practicability of a connexion between the Ohio canal and the Ohio River at or below Pittsburgh. Your committee are authorized to state that Mr. Mahlin *was not* employed by the Ohio Canal Commissioners to superintend or make any surveys of the Sandy and Beaver canal route either at that or any other time, that he was invited by Mr. Kelly the acting Canal Commissioner to take a ride with him and shew him the ground dividing the waters of Sandy and Little Beaver; he did so, spent about three fourths of a day with him returned home and heard no more of the subject until he was informed of the extract referred to.—That an adequate supply of water can be procured on the summit, your Committee entertain no manner of doubt. The streams mentioned in Major Douglas' report were guaged with the utmost accuracy by gentlemen qualified for the task at the dryest season of the year, & it was further observed by those conversant with the streams that they were unusually low: lower than they have been at any subsequent period. Judging from observation, your committee would further observe that in addition to the supply included in Major Douglas' report additional streams with little extra expense can be brought to the summit: a branch of the Mahoning particularly that yields fifty one cubic feet per minute at the dryest season of the year; further, since the survey made under the direction of Major Douglas a survey has been made of that portion of country drained by the streams which will continually flow into the summit level and it is found to exceed sixty five square miles. This survey was made by Jacob J. Willard Esq. the County surveyor of Columbiana County, who was also an assistant in making the surveys of the Sandy and Beaver Canal route and a part of the Massillon Rail road route—were it possible that the preceding means should fail of supplying the summit with water we would merely advert to the fact as stated by Major Douglas, that an extra depth of three feet be

added to the entire line of summit, which will afford Ten Millions cubic feet of water as a reservoir to be depended on in the dryest season. As to the advantages of this canal route, contrasted with those of others, we will trouble the Convention with but few observations.

The *First* great and important advantage of this connexion over that of any other known to your Committee, is the saving in distance.

The *Second* is its southern latitude by means of which a communication with the Eastern cities of Pennsylvania can be had earlier in the spring and continued later in the fall than a more northerly route and termination.

The *Third* advantage which this route possesses over any other is that it communicates more directly with the centre of this state thereby securing more effectually the trade of this state, and the vast extent of country to the west and southwest while at the same time it does not materially increase the distance for the trade of the great western Lakes to the Pennsylvania markets.

The *Fourth* observation we will make is that the country adjacent to this route produces to a much greater extent those heavy articles, such as Wheat, Pork, &c., which constitute important items of transportation, than that contiguous to any other. As an evidence of the above position we would merely state that in the single vallies of Sandy & Little Beaver there are in active operation more than sixty Flouring Mills at the present time: and as respects the amount of trade in that section of country we would observe that in the year 1831 there were more than 100 stores in the single county of Columbiana; since that period the number is supposed to have greatly increased.

With regard to the advantage in distance which this route presents we would refer to the map attached to the Pamphlet before alluded to, and to the maps of the country for an extended view of future contemplated connexions in the Western and South Western countries.

Should a continuous line be deemed unnecessary to connect the Pennsylvania and Ohio improvements the Sandy and Beaver canal may be connected with the Ohio River at the mouth of Little Beaver Creek, from which with some improvement of the channel of said River boats could at all times, when the river is open and free of ice be towed up to Pittsburgh with ease by small steam boats constructed for the purpose, at an expense but little if any more than an equal distance on a canal. The entire length of this route from Bolivar to the Ohio River, would not exceed seventy two and a half miles.

As regards the Rail road we refer to the Report of Mr. Mitchel before alluded to as embodying the principal facts relative to that subject; and should the subject of Rail road communication claim attention we would observe that a choice of routes may probably be had as it is stated that an eligible location may be had in a more northern route than the one surveyed, commencing at or near the mouth of Big Beaver, thence to Greersburgh, Unity, Salem and to connect with the other proposed route at or near Georgetown in Columbiana county. As no survey or special examination has been had on this route we cannot speak of it definitely.

Report of Major Douglass on the Sandy and Beaver Canal.

SANDY AND BEAVER CANAL.

To Messrs. Potter, Begges, Hanna, and others,—Commissioners of the Sandy and Beaver Canal.

GENTLEMEN:

From the notes and observations made along the line of the Sandy and Beaver Canal, by myself in 1828, together with the surveys and measurements more recently furnished me, by the resident engineer,—I have completed the calculations and estimates for said canal, and have now the honor to communicate the results in the following REPORT.

For the convenience of reference, the line is divided into three natural subdivisions, called, respectively, the *Middle*, *Western*, and *Eastern Divisions*, which I shall describe in the order in which I have named them.

The *Middle Division* corresponds precisely with the summit level of the canal, and of course occupies the dividing ground between the waters of the Little Beaver and the heads of the Sandy. It is fourteen miles in length, commencing on the high ground about a mile and a half west of New Lisbon, and terminating in the valley of the Sandy, two miles below Hanover. The *first part* of its course, for about six miles, passes through grounds generally favorable, being level, easy of excavation, and of an uncommonly fine soil for retaining water. Two slight extra cuttings, of about a third of a mile each, and average depth of twelve feet, are the only particulars that deserve to be excepted from this remark.—*Another* portion, of about four miles in length, winds among the head waters of the West Fork, (of Little Beaver) and is somewhat more undulating than the preceding. Two deep cuttings occur upon it, of which the most considerable is 56 chains long by thirty six feet *average* depth: the other is also about thirty feet deep, at an average, but only fifteen chains long. With these exceptions, there is nothing particularly unfavorable; and upon the whole, the better kind of ground greatly predominates.

A third portion of this division, about two miles in length, intersects the principal dividing ridge, and reaches the head waters of

the Sandy. This will require a tunnel of about nine hundred yards, for passing the more elevated part of the ridge and deep cuttings at each end, to the extent of about two and a quarter miles in length, and about twenty feet average depth. Four shafts have been sunk on the line of this tunnel, for the purpose of ascertaining the precise nature of the strata through which it will pass, and I am happy to say, that the result proves extremely favorable.—The material at the level of the drift is a sand stone rock, of moderate hardness which would be excavated in the open air, for about thirty five or forty cents per cubic yard, and which, therefore, according to the analogy of such works, would not exceed one dollar and sixty cents in the drift, apart from the cost of removing the rubbish. This rock is found to be of sufficient depth in the stratum, to insure the stability of support without the assistance of masonry.

The extreme height of the ridge above the line of the tunnel is one hundred and twenty feet; but, at the positions where the working shafts would be sunk, the height does not exceed 84 feet. A small proportion of rock excavation will be necessary in opening the deep cut at the east end of the tunnel; but, on the west side the rock disappears at the commencement of the deep cutting, and the length of the tunnel has been determined by this circumstance. A tunnel of such a length, and under such circumstances, cannot be regarded as a difficulty of very great magnitude; It probably will not be more expensive than a forty eight feet cut of the same length in common gravelly loam. The remaining two miles of the middle division occupy the level flats of the Sandy below Hanover, and are wholly favorable.

The feeders, which should be noticed in connexion with the summit division of the canal, are for the purpose of introducing the waters of the following streams, viz: Davis' branch of Sandy, Mendenhall's do., Holland's do.. and the main branch of the same, also, the West Fork of Little Beaver, and Cold Run. Of these, the two first will require a single feeder of about five and a half miles in length; the others either intersect the route, or lie contiguous to it, and may be introduced almost without expense. Should the purposes of trade be found to require a further supply, it is ascertained that a part of the waters of the Middle Fork, (of Little Beaver,) may be thrown into the summit level by an engine feeder, under circumstances singularly favorable, and at a very moderate expense. But of this I shall speak more particularly hereafter.

The *Western Division* of the route continues down the Valley of the Sandy to its mouth, and is thirty three and a half miles in length, from the first lock below Hanover, to the village of Bolivar, on the right bank of the Tuscarawas, where it intersects the line of the Ohio and Lake Erie Canal. No part of the route on this distance offers any impediment worthy of particular discussion. On the contrary, the fine open plains and gentle declivities by which the valley of Sandy is remarkably characterized, offer on a large part of it, a choice of favorable locations; and, if it were not for the lockage and the expediency of crossing the creek occasionally, in order to shorten the distance, the construction of this division would be reduced to a very low minimum indeed.

The soil is generally a light species of gravelly loam, inclining to clay towards the head of the valley, and becoming somewhat more sandy westward; but, though generally easy of excavation, it is no where so loose or light, as not to afford, with proper attention to the slopes, good and sufficient banks. The lockage amounts to about 223 feet including one ascending lock at the junction of the Ohio line. *Feed water* is received from one or two tributaries of the Sandy, and from the Sandy itself, as occasion requires; generally, however, at such points that the dams may also be used with advantage in crossing the stream. The dams are of moderate length, and do not exceed an average of four and a half feet in height.

There are three crossings of this description, and three by means of aqueducts, including that across the Tuscarawas, at the termination of the line. A few instances of bluff bank occur on the location side near the mouth of the Sandy, amounting to about three fourths of a mile in all. These will require protection walls, or they may be secured by diverting the stream into a different channel.

The *Eastern Division* of the line commences at the eastern extremity of the summit level, and immediately descends, by a rapid succession of locks to the level of the middle fork of the Little Beaver. It then follows the valley of that stream to its confluence with the Ohio, and up the right bank of the latter to the mouth of the Big Beaver, where it intersects the route of the Pennsylvania State Canal. Its precise length will depend somewhat upon the ultimate location of the latter; pending which, it is considered as terminating at the end of the forty third mile, near the Beaver bridge.

The flight of locks, mentioned at the commencement of this division, descends a ravine, of nearly uniform declivity, and of convenient dimensions for all purposes of construction.—The number of locks is *twenty seven*, having an aggregate lift of one hundred and sixty two feet; (six feet each,) in a distance of one and a half miles. This will afford intermediate basins of one hundred and eighty six feet in length, which, by occupying rather greater

width and depth than usual, will be sufficient to make locks of this lift independent, of each other. It may be observed, that locks, under the circumstances, and in the relative position here described, are frequently built with more convenience and at less expense than in the ordinary way; as, by shelving down the bottom of the basins, from lock to lock, the necessity of breast walls is entirely removed. In the present instance, it is another favorable circumstance, that the bottom of the ravine, on a considerable part of the descent, is composed of ledges of rock, which, while they furnish in part the material for locks, will also afford an imperishable foundation for all the works.

The foot of this flight of locks reaches the middle fork of Little Beaver, from which a feeder is taken, and the line then crosses immediately to the left bank. From this point, through the town of New Lisbon, and about five miles beyond the location is extremely favorable through a succession of meadows and river flats; but, below this limit, the valley begins to assume a more bold and precipititous character, and on all the remaining distance to the Ohio, furnishes a very strong contrast to the flat, open topagraphy of the western division. This feature, however, is not without its advantages for the construction, of the canal, as we are enabled, by the narrowness of the stream, and the boldness of its banks, to dam it with the greatest facility, and thus form slack water pools, from one hundred to three hundred rods in length, in many places, where the construction would be otherwise attended with considerable difficulty. About five miles are thus constructed in a distance of nineteen, reducing the labor of excavation to the mere formation of a tow-path, in addition to the necessary dams; and it results that the construction of the canal down this valley, rude and unpromising as it appears, is very little more expensive than the ordinary average of an open route. The employment of this mode of construction secures at the same time the necessary feed water for the use of the canal. In one instance only, a separate feeder is required for the purpose of leading the water of the north branch into a dam located on the main one, a little above the confluence.

About two miles above this confluence, the line for the first time after leaving New Lisbon, crosses by a dam to the right bank, and continues down that side to the mouth of the creek where it re-crosses by an aqueduct. The continuation of the line, from this point to the mouth of the Big Beaver, occupies the flats of the Ohio just sufficiently above the line of extreme high water to secure it from the freshets, the ground at this level being free from any great irregularities, and generally favorable in other respects. A basin is projected at the end of the 43d mile, in which the present location terminates; and, in case the Pennsylvania canal should be located on the west bank of the Big Beaver, which the reports on that subject seem to indicate as most probable, a few rods only of excavation will remain to complete the navigable connexion.

The total lockage on this division is 429 feet, including a rise of about 12 feet on the ascent of the Ohio. Having thus particularly described the whole route of the canal, properly so called, and exhibited the various local advantages and disadvantages, under which it will have to be constructed, I proceed next to examine the important question relative to the supply of water.

The interesting situation and relations of this canal, regarded as a connecting link between the state improvements of Ohio and Pennsylvania, give a high degree of interest to every question of this kind; and, as some doubts have been expressed on this subject, it did not fail to engage early and particular attention. Soon after my arrival on the line, dams were constructed on all the principal streams of the summit level, that is to say: Davis' Branch of Sandy, Mendenhall's and Holland's Branches of the same, and the main branch below Hanover; also the West Fork of Little Beaver, and Cold Run. These dams were furnished with waste weirs, of the proper shape and dimensions for guaging, and built with some degree of permanency, so as to afford a series of measurements, during the whole of the dry season. At the time of their construction, the streams were yet on the decrease, but on the 29th of August, when they appeared nearly to have reached their lowest limit, the weirs were measured, and found to yield an aggregate of 736 cubic feet per minute.

On the 6th September, the drought being still uninterrupted, the measurement gave 708 cubic feet, and the same on the 18th; but about the 1st of October the waters began to rise, and by the 6th of the same month, the aggregate flow was upwards of 2000 feet per minute. From these measurements, and my own knowledge of the state of the water, previously to the 29th of August, I have assumed the duration of extreme drought of the year 1828, at about *seven* weeks; and the average supply during that time, at 722 feet per minute, being the mean of 736 and 708.

This will appear a safe estimate, when we consider that the waters generally, before the 29th of August, were *higher* than *at that time*, and that the average *afterwards*, was also higher than at the times of measurement; for those measurements were always made after the longest interval of continuous drought, & when the streams were least affected by occa-

sional rains, of which there were several instances in the course of the dry season. According to the best information that could be obtained, the streams had seldom, if ever, been seen as low as in 1828; but that there may be no room for doubt on this head, I suppose the duration of drought in *general* to be 60 days, instead of seven weeks, at the rate above mentioned, which will comprehend nearly the whole of August and September.

The summit level of the canal I propose constructing with an extra depth of three feet, which will make it a reservoir for about *ten millions cubic* feet of surplus water. This will enable us to secure the product of every shower during the summer, for the use of the canal, and, (being filled of course, in the earlier part of the season,) will afford us, even without any accessions of this kind, a regular supply of 114 cubic feet per minute, in addition to the preceding, during the whole sixty days. We may also estimate, at least, 50 cubic feet per minute, from the heads of Brush Run, and several other small but permanent spring streams, by which the line of the canal is intersected, and which are not included in the foregoing estimate. The aggregate of the whole is 886 cubic feet per minute; we shall presently add to this, the produce of an engine feeder from the middle fork of Little Beaver; but to show more clearly the grounds of *certainty* upon which this canal may be undertaken, let us first inquire how far this supply alone, without any such addition, would meet the expectations of public convenience and revenue.

In the first place, it will have to supply the losses of soakage and evaporation on about twenty miles of the canal. The soil of a considerable portion of this distance is a strong clay, in which very little water can be lost by soakage; and even the most unfavorable parts contain so considerable a mixture of clay, that, with a very little care in the construcion, they may be rendered nearly water tight. Under these particular circumstances, I consider 22 cubic feet per mile per minute, as entirely sufficient for the supply of these losses on the middle division; which gives a total of 440 feet for the 20 miles. One hundred and twenty cubic feet per minute, must then be allowed for leakage and waste at the gates; which, with the former, being deducted from the total supply, leaves 326 cubic feet per minute, for the purposes of lockage, or 234,720 cubic feet per diem, at each end of the summit level.

The locks are of 6 feet lift, 15 by 90, and contain 8,100 cubic feet; this quantity, therefore, will afford nearly 29 locks full, and as *three* locks full will generally pass *four* boats, in the average order in which they present themselves, we have a navigation of 38 1-2 boats per diem, from the supply in question. This seems a very moderate number; but let us examine it a little further; and first with reference to the question of revenue. Thirty eight and a half boats per diem, during the *summer* months, correspond, according to the ratios furnished us by the New York canal, with an aggregate of 10,000 boats per annum; and if we suppose an average cargo of 25 tons, (the burden of the boat being full 50,) we shall have a total of 250,000 tons, and a toll, at one cent per mile per ton, of $226,250 per annum, or nearly 18 per cent. on the whole cost of the canal. Let us also examine it with reference to public accommodation. At Rochester, on the New York Canal, the average number of passages per diem, during the months of August and September, 1828, was about 27, and from circumstances communicated in the last report of the commissioners, I infer that it must have been even less than 24 during the past season; the probable mean is about *one half less* than the number which could have been passed during the same months, on the Sandy and Beaver canal, with only the natural supply of water on the summit; and if we admit the trade of Rochester to be a fair term of comparison, it does not appear probable that the business of the Sandy and Beaver canal will immediately require a larger supply than this.

That it may do so, however, in the course of a few years, is by no means unlikely. Its object is to connect the trade of the Ohio canals, by a direct route with Pittsburgh and Philadelphia, and ultimately, perhaps, with Baltimore and Washington; and if we may infer an increase of trade, corresponding in any degree with the advancement of population and public wealth in the State of Ohio, the time is not distant when other supplies will be called for. In this case, we look to the Middle Fork as already suggested, and I now proceed to show the manner and probable expense of obtaining any required addition of feed water from this stream.

The point at which it is proposed to take it out, is 68 chains from the line of the summit location; opposite the end of the second mile, and 125 feet below the ground rising immediately from the edge of the creek to the level of the line. A few yards from the water, and near the level at which the steam engine would be placed, a rich vein of bituminous coal breaks out and shows itself with a thickness of about three feet, to a considerable distance, up and down, on both sides of the creek. This coal has been wrought to some extent at the furnace a short distance below, and it is fully ascertained that it may be delivered at the mouth of the pit at one and a half cents per bushel.

I have estimated it at 2 cents delivered at

the engine, which makes the cost of fuel only 4 dollars for an engine, consuming two hundred bushels, per diem.

The total cost of a feeder, deriving its supply by an engine of this power, kept in perfect repair, and working at the rate of ten weeks per annum, may be estimated as follows:

For the engine and the necessary buildings,		$10,000 00
250 yards main pipe, at 24 dollars,		6,000 00
1,200 yards wooden leader, 4 dollars,		5,000 00
Total first cost,		$21,000 00
Fuel as above at 4 dollars, per diem, ten weeks,	$280 00	
Wear, tear, and attendance at 5 dollars,	350 00	
Total annual expense,	$630 00	
Say 700 per annum, equivalent to an investment of		$10,000 00
Total capital,		$31,000 00

The performance of the engine will depend upon its construction. This is differently estimated by different engineers. According to the performance of the Cornwall engines in 1815, an engine consuming 200 bushels of (English) coal per diem, would raise about 400 cubic feet per minute, to the height required: but from the work of the engines of the same district, in 1828, such an engine would raise no less than 670 cubic feet.

Taking the mean of these results, and making a reasonable allowance for any supposed difference in the quality of the coal, I get 460 cubic feet per minute, by way of estimate, for the performance of the engine in question which is also a fair estimate from the working powers of several engines in our own country. This will increase the quantity of lockage water from 326 to 786 feet per minute, and the capacity of the canal from 38 1-2 boats per diem, to 93 boats. A trade to this extent during the summer months, according to the ratios heretofore quoted, corresponds to a navigation of 24,111 boats per annum, (almost double the number of arrivals and departures at Albany during the past season) and an aggregate toll of 542,400 dolls. These calculations are made upon practical grounds, and with liberal allowances on all points which involve any doubt. It may be satisfactory to some, however, to know, that in case of necessity, the middle fork could easily spare 3 or 400 feet more, without prejudice to the supply of the eastern division.

The summit level being thus provided for, there can be no doubt of the sufficiency of water on every other part of the canal. On the Western division, some additional supplies will be gained at the dam below the lock No. 7, which, with the small streams intersected by the line below, will be more than sufficient for the soakage and evaporation to Pekin.—Below Pekin, and after taking in Hugill's Run, there will be surplus sufficient to admit an increase of 2 or 3 feet in the lift of the locks; and finally, from Waynesburgh down, the locks may safely be constructed, if necessary, with lifts of ten feet. On the Eastern division, there will be a sufficiency for 10 feet locks, immediately after taking in the first feeder from middle fork above New Lisbon; and from that point down, locks of 9 and 10 feet, may be used without fear, so far as water is concerned. It only remains now to add a few remarks on the construction of the works, and the scale of prices, preparatory to the estimate.

The connexion of this canal with the canals of Ohio and Pennsylvania, (both modelled after the New York canal) indicates at once, the tonnage of the boats to which it should be adapted, and the size and proportion of all the works. Accordingly, the section of the canal has been assumed at 40 feet surface, 28 feet bottom, and 4 feet deep, and the locks at 90 feet by 15. The profile of the summit level only, is varied as already suggested, so as to admit a depth of 7 feet instead of 4. The tunnel is projected with a transverse section of 30 square yards, except two recesses of the length of 75 feet each, which are enlarged to 50 square yards, making an average of 33 1-4 on the whole length of the drift. This goes upon the supposition that the tow path is discontinued through the opening. It could not be retained without an additional expense of 15 or 16 dollars per yard run: and its use may be easily supplied by an endless chain, and stationary horse power, for less than one tenth that amount. The feeder from Davis' Branch, it is proposed to construct of wood. It will not differ much in point of expense, from an excavated feeder, and will have greatly the advantage in retaining the water.

The dams, generally, are supposed to be built in the usual way, of timber, filled in with stone and gravel; the aqueducts with trunks of wood; and abutments and piers of masonry. Good materials for masonry are found every where, within a short distance of the line and in many places where the most expensive constructions are required, the best of building stone occurs on the spot. With these advantages, the locks and other works of masonry would probably be executed at less expense (perch for perch) on this line, that on canals generally; but as many of the

locks are of moderate lift, and on that account somewhat more expensive in the gross. I have estimated them at $600 per foot throughout, which is a very liberal average of the lock contracts on the Pennsylvania canal.

Other works are estimated by a scale equally safe: as for instance, excavation of earth, generally from 7 to 10 cents, and in deep cutting, as high as 16; rock, in ordinary situations, 35 to 50 cents; in the shafts of the tunnel, $1,25, and in the drift of the tunnel $2; embankments, 10 to 15 cents; dams across small streams and of moderate elevation, 4 to 9 dollars per foot; those of greater height, 15 to 25 dollars; aqueducts, 35 to 50 dollars per foot run; tow path bridges, farm and road bridges, and culverts, according to the prices on the western division of the Pennsylvania canal.

The aggregate result per mile, is exhibited in the following *summary estimate*, together with the causes of an extra expense, whenever they occur.

MIDDLE DIVISION.

Mile 1. Extra cutting, part rock	$10 355 14
2. Do do.	10,346 16
3. Fair	2,366 40
4. Do.	2,052 68
5. Ordinary	5,082 30
6. Do.	4,855 90
7. Embankments	12,015 50
8. Deep cutting, part rock	39,351 92
9. Extra cutting, part rock	12,205 54
10. Do. do.	7,361 85
11. 924 yards tunnel, at $78 50, and deep cut	112,403 18
12. Deep cutting	37,902 80
13. Extra cutting in part	8,544 20
14. Fair feeder from Davis' Branch	21,815 34
Total, Middle Division,	$286,658 91

WESTERN DIVISION.

Mile 1. Fair	2,979 92
2. Do.	2,691 06
3. Do.	2,582 44
4. Do.	2,535 76
5. Dam and guard lock and turnpike bridge	7,633 16
6. Fair	2,530 78
7. Do.	4,209 64
8. Do.	3,054 84
9. Aqueduct	12,221 02
10. Fair	3,092 48
11. Feeder at Pekin	4,179 96
12. Fair	3,516 64
13. Do.	3,622 32
14. Do.	4,879 36
15. Do.	4,636 04
16. Do.	2,822 80
17. Do.	3,575 56
18. Dam and guard lock, Waynesburgh	9,441 20
19. Fair	3,822 27
20. Do.	3,190 88
21. Do.	4,231 03
22. Do.	2,654 72
23. Do.	3,145 04
24. Do.	2,912 48
25. Do.	3,883 72
26. Do.	4,729 17
27. Dam and guard lock at Sandyville	13,195 22
28. Fair	4,776 16
29. Do.	4,535 54
30. Do.	4,082 64
31. Aqueduct and extra cutting, part rock	24,988 70
32. Fair	2,910 00
33. Do.	3,989 52
Half mile fraction crossing the Tuscarawas	20,758 68
	188,510 85
222,66 feet lockage, $600	133,596 00
Total, Western Division,	$322,106 85

EASTERN DIVISION.

Mile 1. Embankment	9,839 36
2. Do. and aqueduct	7,550 84
3 Fair	4,191 78
4. Do.	3,699 94
5. Do.	3,057 85
6. Do.	2,614 04
7. Do.	2,511 76
8. Do.	4,641 02
9. Slack water in part	3,415 40
10. Dam and guard lock	11,076 64
11. Fair	3,457 38
12. Embankment and sideling	8,029 36
13. Do. do.	5,380 12
14. Fair	3,612 72
15. Slope wall	7,582 52
16. Do. and extra embankment	11,069 92
17. Fair, sideling in part	5,146 27
18. Dam and guard lock	9,468 24
19. Sideling	5,559 56
20. Dam and guard lock	9,208 44
21. Fair	2,800 00
22. Dam and guard lock, and feeder from North Branch	11,903 44
23. Fair	2,679 40
24. Dam and guard lock, extra rock, &c.	15,679 56
25. Undulating	4,620 36
26. Dam	8,608 98
27. Fair	3,624 66
28. Slack water	4,490 00
29. Dam and guard lock, extra embankment, and aqueduct	33,167 36
30. Aqueduct	6,927 56
31. Undulating	4,012 24
32 Do.	4,512 26

33. Fair		3,024 17
34. Ordinary		5,803 70
35. Fair		3,458 00
36 Extra embankment		5,114 40
37. Extra cutting		4,347 76
38. Fair		2,870 39
39. Extra cutting		4,940 76
40. Protection wall		4.836 28
41. Embankment and aqueduct		7,370 41
42. Slope wall		9,304 40
43. Fair		3,196 52
		277,802 77
429 feet lockage at $600		257,400 00
Total, Eastern Division,		$535,202 77

GENERAL SUMMARY.

Middle Division	14 miles	286,658 91
Western Division	33 1-2	322,106 85
Eastern Division	43	535,202 77
Nett total	90 1-2 miles	$1,143,968 53
Engine feeder		31,000 00
		1,174,968 53
Contingencies, 10 per cent.		117,496 85
Grand total,		$1,292,465 38

In conclusion allow me to observe, that the efficient manner in which Mr. Malin has discharged the duties confided to him entitles him equally to my acknowledgments and the commendations of the Board.

All which is respectfully submitted,

D. B. DOUGLAS,

Profes. Eng. U. S. Military Academy.

WEST POINT, *February* 1. 1830.

Report of the Engineer appointed to examine the route of the Pennsylvania and Ohio Rail Road.

To the Pittsburgh and Ohio Rail Road Committee:

GENTLEMEN—In the month of October last, I received from your body a letter of instruction directing an immediate examination of the ground lying between the city of Pittsburgh and the Ohio Canal, for the purpose of ascertaining the practicability of locating thereon a Rail Road. From examination it appeared that that part of the route leading down the Ohio to the mouth of Big Beaver creek, a distance of 28 miles, was evidently so favorable as to render minute examinations with the instruments entirely unnecessary for present purposes. My attention was accordingly turned to the investigation of that part of the contemplated route lying between the mouth of Big Beaver creek and the Ohio canal.

In your letter of instruction you were pleased to give an indefinite latitude in the choice of ground upon the last mentioned division, directing, however, that full examinations should be made as to the two terminations, the one at Massillon, the other at Bolivar.

The instruments were, accordingly, placed upon the ground at the mouth of Big Beaver creek. There is no choice of ground, and the only practicable route for a rail way is clearly pointed out by the formation of the country. We must pursue the margin of the Ohio river, for the distance of nearly 12 miles, when we reach the mouth of the Little Beaver creek.—Our route must then fall into the valley of this creek, and must be confined to it absolutely, until we reach the junction of the west and middle branches of the creek, distant about 16 miles from the Ohio River, measured by the creek valley, up to this point. There can be no choice of ground, and our route cannot deviate in a single instance, from that already mentioned. At the junction of the west and middle branches of the Little Beaver, there were two modes of reaching the Ohio Canal; the one by the west fork and the valley of the Sandy, terminating at the town of Bolivar, on the Ohio Canal. The other by the way of the middle fork to the town of New Lisbon; thence across the country to Georgetown; thence, west to Canton; and thence across the country to Massillon on the Ohio Canal. A choice between these two routes was to be made. The notes of a survey upon the Beaver and Sandy route were in my possession. This survey was made for the purpose of locating a canal, but of course could furnish much information with regard to the practicability of a rail road. Some examinations had likewise been made, disjointedly, upon the Lisbon and Massillon route. From these data, and the following considerations, a conclusion was to be drawn, and a choice made.

If the Beaver and Sandy route be pursued, the line lies through a portion of country sparse in population, and upon which little or no stock could possibly be subscribed. Moreover, the ultimate extension of the route beyond the Ohio Canal into the interior of Ohio, (a matter of deep moment,) seemed from the nature of the ground, as exhibited by maps in my possession, to be next to utterly impracticable, provided we terminate our contemplated road at the mouth of Sandy.

It is likewise deemed an important consideration, in locating a road such as the one in agitation, that it should be so situated as to accommodate itself to the best interests of those who are to be affected by its construction. If the Lisbon, and Canton, and Massillon route should prove practicable, & would bear a comparison, in point of distance, with the other, it presented many advantages over the Sandy and Beaver route, which could not be overlooked in the decision of the important question, which route should be chosen. By adopting the Lisbon and Massillon route, our

line would lie through a thickly populated and highly cultivated country; besides enlisting in its favor all the capital of three flourishing towns, Lisbon, Canton and Massillon. These villages contain much of the wealth and enterprise of their respective counties; and it is from the inhabitants of these places, if from any source, we may hope for a warm interest and liberal subscription. The expenditure of some thousands of dollars already, in examinations at hazard, speaks loudly for the truth of the above assertion.

With these views, and upon these grounds, it was resolved to throw our party at once upon the Lisbon & Massillon route; & ascertain to a certainty its practicability or impracticability. During the prosecution of this work, communications were made to your body, detailing the progress we had made, and the unexpected facilities which presented themselves for the location of our road. Previous to terminating the examinations upon this route, and at a stage at which there remained little doubt of its practicability, your body were pleased to direct that the examinations should cease with the closing of the Lisbon and Massillon line. According to these instructions, on the 3d instant, the line was closed, and those of the party whose services were no longer required, were paid off and discharged.

Having laid before you the reasons which induced the course which I have pursued, I shall now present you with the general characteristics of the route, as developed by our examinations. Agreeably to your instructions, our examinations were commenced at the mouth of Big Beaver, assuming an elevation, on the Ohio bank, equal to the probable height of the Big Beaver viaduct; assuming a grade rising at the rate of sixteen feet per mile, our line is carried down the Ohio river, and upon a hill side in some places steep and inclined to wash, but generally fair and easily graded, since it is only necessary to cut enough earth from above to embank below. Having crossed two mile run, the hill side becomes more rough and broken, the ledge of sand stone shewing itself upon the surface at intervals.

By changing our grade to thirty two feet rise per mile, we are at the end of the fourth mile, enabled to rise upon the fine second bottom upon which the stone house of Mr. Potter is situated. The route is then fair and gently descending until we reach Six Mile run, which will require a viaduct, & some heavy embankment. Wolf run forms another deep indentation in the shore, and will require a viaduct, perhaps thirty feet high. Our line still continues upon the hill side, which affords choice ground for nearly a mile. The hill then becomes more bold and precipitous; the rock rising a perpendicular height of perhaps 70 feet. Our route must pass the base of this ledge and precaution must be had against the rock, which threatens to detach from above. This will be necessary in but a single instance, and that for a short distance. Our grade of thirty two feet carries us upon the beautiful and extended bottom owned by the heirs of Mrs. Hoge: any choice of ground may be here obtained for the distance of two miles. Leaving this bottom, the route becomes somewhat broken; the hill receding, and the land running down in slight undulations to the river. The grade may, however, be so accommodated to the ground as to render the excavation and embankment comparatively small. This character of ground continues up to the termination of the 12th mile. Here the side hill again ceases abruptly, and a ledge of broken sandstone is seen for perhaps half a mile.

Our route must lie at the base of this ledge, but not so near as to be in danger from the falling masses of rock. Crossing Dry run, the character of the ground becomes less rugged, the hill side smoother and the descent more gradual, rendering the construction less difficult.— fourteen and a fourth miles from Big Beaver bridge our line strikes the mouth of Little Beaver creek, and crosses by a viaduct to the western shore, and falling into the valley, pursues it up to the town of New Lisbon distant thirty seven miles from our starting point. I shall here merely describe the general features of the Beaver valley, referring for particulars to the detailed report. The stream is very serpentine in its direction, and winds its way among hills which rise upon either side to the height of perhaps five hundred feet. In most instances there is a narrow bottom of land skirting the edge of the water; and it is upon this bottom that our line is located.— Owing to several sharp bends in the course of the stream, it becomes necessary to cross it at several points; but as most of the crossings are low, a cheap construction for viaducts may be used so as to make the additional expense of those miles upon which they occur, little above the average cost per mile.

Leaving the town of New Lisbon, we still continue on the hill side of the creek, and ascending at a grade of 32 feet per mile, we reach the Beaver dam summit, distant about four miles from Lisbon. Leaving the Beaver dams, our course is then westward, over a fine level and open country, nearly six miles. We then pass a gorge in the hills of remarkable formation, and fall immediately into the valley of the Mahoning creek, which affords a very fair prospect for a cheap location. This valley is pursued until within one mile of the village of Georgetown, distant about fourteen miles from New Lisbon.— Passing Georgetown, the ground becomes broken and hilly, and so continues for about

six miles. The excavation may, however, be so regulated as to make the necessary embankment.

The next nine miles present a variety of ground: the greater part of it may be graded at an expense little above the average. At the house of Mr. Loutzenhiser our line crosses the "old Thomas road:" and thence to the town of Canton the route is remarkably direct and favorable. The whole distance from New Lisbon to the court house in Canton is measured twenty six miles and two chains.

Leaving Canton, our line continues westward, crosses the west fork of Nimishillin Creek, taking a direct course to the Buck Ridge summit, which is crossed with short cutting of about eight feet average. The ground then descends for half a mile, then rises gently to the summit, near Mr. Rex's house, presenting a surface that will be easily graded. Passsing this summit, we fall into the valley of the "Crooked Run," which leads us by a direct course, and a gentle descent, to the Ohio Canal, at the town of Massillon.—Having thus completed a descriptive memoir of the whole route, it may be well to present in this place some general remarks upon its different divisions.

Down the Ohio River, and up the Beaver creek to the Beaver dam summit, a species of sand stone occurs in the greatest abundance. The use of this stone will render the construction of culverts and viaducts which occur most frequently in this portion of the route, comparatively cheap. After leaving the Beaver dam summit, there is little or no rock formation upon the surface for the remainder of the distance. In no instance has the grade been allowed to exceed the limit of 32 feet per mile; which presents no obstacles to the transportation of a given load by the same power from one extremity of the route to the other. The curves which have been adopted have, in no instance, a radius less than one thousand feet, which will admit the uninterrupted velocity of locomotive engines. In so general a report; none but general estimates of expense can be expected; and as these must vary according to the different modes of construction adopted I shall here only state that the average cost per mile, upon the whole distance, may be made to vary from eighteen to twenty thousand dollars.

In conclusion, I may remark, that the route is one of at least ordinary practicability. The whole distance from Pittsburgh to the Ohio Canal is less than one hundred & eight miles, from whence it appears our route is remarkably direct. Taking into consideration the immense advantages which must flow from such a connexion, and the rich and fertile country through which it passes, we may be warranted in the belief, that stock here invested must prove as productive as any upon a route of the same length in any part of the United States.

Respectfully submitted,

O. MITCHEL, Engineer.

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Mr. *McFarlane* of Mercer, from the committee appointed under the third resolution, made the following report in writing, which on motion was ordered to lie on the table.

The Committee appointed by the Delegation from the County of Mercer in the Commonwealth of Pennsylvania, under the second Resolution adopted by this Convention on the first day of its session, respectfully

REPORT;

That they have attentively examined the report now exhibited to this convention by the joint Committee from the counties of Trumbull and Portage, in the State of Ohio, and unhesitatingly say that they fully concur with said joint Committee, in the statement of facts, by them submitted and the course of reasoning by them adopted in favor of a union of the Pennsylvania and Ohio Canals by means of a cross-canal, to be made from Akron on the Ohio Canal, along the valley of the Mahoning to a point at or near New Castle, in the State of Pennsylvania.

All which is respectfully submitted.

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On motion of Mr. *King* of Trumbull, the following resolution was unanimously adopted:

Resolved, That the various reports made to this convention, by the several committees, together with such other facts and information as have been, or may be obtained, be referred to a committee composed of the delegates in attendance from the cities and counties of Philadelphia, Allegheny and Pittsburgh, to report thereon to this convention, or in the event of its previous adjournment to the President and Secretaries thereof. & that the same be published as part of the proceedings of this Convention.

On motion, of Mr. *Miller* of Philadelphia, the following resolutions were adopted:

Resolved, That a committee of five members be appointed to prepare an address to the citizens of Ohio and Pennsylvania, which, without reference to any particular line of communication, shall explain the advantages which may be expected to arise, to the two States, from the union of their respective canals, and furnish the proper facts, and details necessary to give a just view of the probable productiveness of the proposed junction in point of revenue—the address to be duly subscribed by the President and Secretaries of this Convention.

Resolved, That the report on the general advantages, of the junction be referred to the same

committee, taking for their basis the report of the committee which has been reported to this Convention:

Whereupon, Mr. Miller having declined, the following persons were appointed to constitute said committee, viz:—Messrs. King of Trumbull, Biddle of Pittsburgh, Waln of Philadelphia, Christmas of Starke, and Cunningham of Beaver.

On motion of Mr. *Newberry* of Portage the following resolution was adopted.

Resolved, That a committee of five members from the counties of Trumbull and Portage be appointed, whose duty it shall be to collect all such statistical information, as may have a bearing upon the operations of a Canal to unite the Ohio and Pennsylvania Canals, and, if required, to communicate the same from time to time to the Delegates, to this convention from the State of Pennsylvania.

Whereupon Messrs. Newberry, Wadsworth and Bierce of Portage, and Tod and Kirtland of Trumbull were appointed said committee.

On motion of Mr. *Henry* of Beaver, the following resolution was adopted.

Resolved, That a Committee of ten members be appointed to draft and present memorials to the Legislatures of Pennsylvania and Ohio, praying for efficient aid to construct a communication between the Pennsylvania and Ohio Canals:

Whereupon Messrs. White, Patterson, Biddle, McClurg and Pollock of Pennsylvania, and Messrs Rayen, Blackburn, Pease, Larwill & Roan Clarke of Ohio were appointed said committee.

On motion of Mr. *E. Potter* of Columbiana, the following resolution was adopted:

Resolved, That a committee of five members be appointed from the counties south of the Western Reserve in Ohio, whose duty it shall be to collect all such statistical information as may have a bearing upon the operations of a canal to unite the Ohio and Pennsylvania canals, and, if required, to communicate the same from time to time to the delegates to this convention from the State of Pennsylvania

Whereupon Messrs. E. Potter, Chrismas, Cox, Pritchard and Morlege were appointed said committee.

On motion, of Mr. *Avery* of Allegheny, the following resolution was adopted:

Resolved, That the President and Secretaries be directed to transmit the proceedings of this convention together with the reports of the various committees, to the Governors of Ohio and Pennsylvania requesting that the same be laid before the Legislatures of the respective States for their consideration.

On motion of Mr. *Atwood* of Philadelphia, the following resolution was unanimously adopted:

Resolved, That the thanks of this convention be presented to the citizens of Warren for the convenient accommodations which they have furnished for its deliberations and for the general courtesy extended to its members.

On motion of Mr. *Baldwin* of Trumbull the following resolution was unanimously adopted:

Resolved, That the thanks of this convention be tendered to their President and Secretaries for the able and satisfactory manner in which they have discharged their respective duties.

On motion of Mr. *Tod* of Trumbull, the following resolution was adopted:

Resolved, That the proceedings of this convention be signed by the President and Secretaries, published under their direction and a copy thereof sent to each member of this body.

The business of the Convention being closed they adjourned *sine die*.

REPORT:

The undersigned, to whom were referred the representations made to the Convention on behalf of the several projects for uniting the canals of Ohio and Pennsylvania, respectfully report—

That they could not fail to be deeply impressed with the responsibility of the task imposed upon them, as well as with a grateful sense of the confidence implied in their appointment. The first impulse was to decline, altogether, a trust by no means desired or anticipated on their part, and the discharge of which, might well be expected, in any event, to be viewed invidiously; but the frank and candid spirit which characterized the proceedings of the Convention, assured them that their labors, however imperfect, would be regarded with indulgence; and they did not feel at liberty, therefore, to interpose a sullen negative to the course which their associates regarded as tending to promote the great objects in view.

In the attempt to fulfil, conscientiously, a duty so delicate and important, it has been their anxious object not only to keep steadily in view the very able reports referred to them, but to seek, in every quarter, for such further facts and suggestions as might aid in reaching a just conclusion. Shortly after the adjournment of the Convention, they proceeded, by the line of the northern route, to Akron, and thence descended the Ohio Canal to Massillon. From this point, some members of the Committee pursued the route of the proposed rail road; whilst the others made their way to Waynesburgh, which was indicated as the most suitable point from which to commence the examination of Sandy Creek. At Waynesburgh, several very intelligent gentlemen were

found in attendance, with the surveys of the Sandy and Little Beaver Canal route, and accompanied the party up the valley of Sandy creek. The two divisions of the committee reunited at Hanover, and from this point enjoyed the advantage of the attendance of Mr. Joshua Malin, who had a large share in the labors exhibited in the report of Maj. Douglass. On reaching New Lisbon, the undersigned were gratified by the opportunity of a personal conference, on the subject of their inquiries, with many of the most respectable inhabitants. Here, also, two Addresses were read and submitted to them; one by E. Potter, Esq., supplemental to that presented to the Convention; the other by A. W. Loomis, Esq, exhibiting the facts and arguments in favor of a canal by the southern route, & dwelling more particularly on the subject of the supply of water. There was also a statement communicated of the amount of merchandise sold in a single year within the county of Columbiana.—These interesting papers, marked respectively, A, B, and C, are appended to the present report. From New Lisbon, the committee proceeded to the mouth of the Little Beaver, & thence along the margin of the Ohio river to Beaver, accompanied throughout by Mr. Malin. They have at length reached this place; and, under the pressure of engagements elsewhere, rendered exceedingly urgent by an absence of unexpected length, they hasten to state, as briefly as possible, the conclusions at which they have deliberately arrived.

The question as to a *Rail Road*, ought, perhaps, in order of time, to be first adverted to, as being one which, in the view taken of it by the committee, at an early period, involved no matter of detail or consideration connected with a personal examination. As such a work must depend, mainly, if not exclusively, upon private subscription, it became indispensable to inquire into the present state of feeling on this subject, in the quarters from which aid must necessarily be sought; and it was at once ascertained, beyond all doubt, that the prospect of obtaining subscriptions was utterly hopeless. When to the powerful arguments, drawn from experience, which were represented as dissuading from such a plan of improvement, in reference to transportation, was added the fact, that this work is not an independent one, but designed to connect two canals, and that its employment would involve a double transshipment, the committee felt, that to keep it longer in view, was to put in peril a really attainable object. It is a source of high gratification to add, that as the convictions of the committee necessarily unfolded themselves in frank conference with gentlemen most deeply interested in this project, they were met in a spirit of the utmost liberality & candor. No reason is seen to doubt that the most judicious location for the contemplated work was made by Lieut. Mitchell.

Putting, then, a rail road out of view, there remain only the *northern & southern* routes for a connecting canal, and in coming to a decision between these, the undersigned are unanimous.

The great question in reference to a canal—and one compared with which all others are, in truth, insignificant—is, of course, as to the supply of water. If an anxious and distressing uncertainty on this point attach to the work, no safe calculation can be made on its value as a stock, or its usefulness as a medium of conveyance. Where the supply is inadequate or precarious, we cannot assume, in an estimate of revenue, the maximum of boats which might possibly, in a given season, if presented exactly at the desired period, be transported on the canal. The chances of disappointment will, in a great measure, suffice to dissuade from resort to a channel whose failure, at a critical moment, may involve irreparable mischief. We must constantly bear in mind that ours will be only *one* of the modes of communication between the east and the west; and that its productiveness must depend on inspiring implicit confidence, not only in the cheapness and safety of this route, but, in the certainty of its operations.

The committee are satisfied that a canal, by Sandy and Little Beaver creeks, will not be adequately supplied with water. The allowances in practice, found so indispensable, are, in the estimates for this rout, very low; strikingly so, when compared with those on the other route by Colonel Kearney. The contemplated resort to steam engines is deemed wholly inadmissible. Nor ought we to overlook the admitted tendency of the streams relied upon, to shrink up with the improvement of the country. The number of boats, also, likely to pass through this work, though advantageously compared, by the engineer, with the number on the New York Canal, at a particular period, falls far short of the subsequent expansion of business in that quarter. It would, indeed, be deeply mortifying if, instead of looking to the vast commerce that await this connection, and providing for, and urging its enlargement, we should have, hereafter, to look with alarm at the increasing demand for transportation as a satire on our own want of forecast. The undersigned will only add, that the apprehensions with which they approached this rout, founded on estimate and calculation, were more than realized by actual observation on the ground; and there was forced upon them a conviction stronger, perhaps, than can be conveyed by words.

After the foregoing remarks it is, perhaps, superfluous to say to the Convention, that the northern rout, by the Ravenna summit, is the

one which the undersigned unanimously recommend. Of the abundant supply of water for that canal no doubt can be entertained; and it is ardently hoped that sectional feelings will be discarded, and the thoughts and exertions of all be steadily directed towards the accomplishment of an object of such vital importance to the *whole* of the two states.

It is proper to note distinctly that the canal thus recommended, is one which shall connect the two great thoroughfares of Ohio and Pennsylvania, by an unbroken chain of canal communication from Pittsburgh to Akron. A work, possessing this character, is called for, in express terms, by the Charter under which it is, at present, contemplated to act; and is, moreover, in the opinion of the undersigned, indispensable to enable us to compete successfully with the channels of conveyance already open. A break in this chain, by a railroad from Beaver to Pittsburgh, or by reliance on steam power to tow up Canal Boats, when the state of the river shall admit, would, in the opinion of the undersigned, render the work altogether incompetent to effect the great objects which are aimed at, and which it is so well calculated, under enlightened management, to achieve.

In concluding this Report, the undersigned cannot but feel that it is probably the last act of their connection with an assemblage which forcibly impressed every one of them with sentiments of respect and regard. The result of the Convention is, of course, like every thing human,—a matter of uncertainty; but they must ever consider the period as well and happily spent, which brought them into intimate association with an estimable body of our fellow citizens, in a quarter of our common country, new to most of them; and they will delight to cherish the feeling of just national pride, with which they have traversed a great and flourishing state, whose prosperity may be distinctly traced to the indefatigable industry and sound morals of her intelligent and enterprizing people.

Delegates from the city and county of Philadelphia:

Abraham Miller,	Josiah White,
Jacob S. Waln,	Thomas P. Hoopes,
George Handy,	Alex. M'Clurg.
John M. Atwood.	

Delegates from the city of Pittsburgh, and county of Allegheny:

Richard Biddle,	Charles Avery,
Geo. Miltenberger,	Alba Fisk,
Geo. Cochran,	William Lecky.
Wm. Robinson, Jr.	

Pittsburgh, November 23, 1833.

ABNER LACOCK *President.*

ZALMON FITCH, CALVIN PEASE, } *Secretaries.*

APPENDIX.

The subjoined statement and remarks, upon the *general* advantages and necessity of a union of of the Pennsylvania & Ohio Canals, calculated to put the public in possession of part of the evidence upon which the reports of the committees were founded, were intended to have been published after all of the proceedings of the convention. In consequence of the absence of some of the documents which were communicated to the committee on the routes, while at New Lisbon, and which have been daily expected, it has become necessary to insert them in this place to facilitate the publication.

Since the adjournment of the Convention, the following facts in relation to the extreme hazard, delay, & uncertainty of the Lake navigation, have been collected, principally by adverting to the business correspondence between the merchants in this vicinity, and the forwarding houses in Buffalo, and other places along the Lake shore the present season.

It should be observed, that this correspondence was not intended for the public eye, but arose in the ordinary course of commercial transactions, and on the part of the forwarding merchants, it was a duty involved in the trust reposed in them, to give the earliest information to the respective owners, of the disposition they had made of their goods, and show that they had faithfully discharged the trust, in forwarding them without delay.

With these remarks in justice to them, we deem the information derived from this source, of such importance to the public, as to warrant its publication in the manner subjoined.—It places in a clear light, and on authority which cannot be suspected of being swayed by interest, or warped by prejudice, the real danger, uncertainty, delay, and embarrassments, attending the transportation of merchandise and produce, across the lake between Buffalo and Cleaveland and the intermediate ports, at that season of the year when the lake is open and free from obstructions by ice. It also evinces, the great caution and anxiety, manifested by the committees in their various reports to the convention, in all their statements upon these subjects, to stop short of, rather than exceed the truth.

Mr. HOYT a merchant of Warren, set out for New York on the 24th of July, 1833, to purchase his fall supply of goods. He completed his business, and the goods left that city, *via* Albany, on the 18th of August, and arrived at home on the 24th of September. A further supply which was ordered, left New York on the 23d of September by the same route and did not reach their place of destination until the 13th of November: a period exceeding fifty days.

In relation to the first supply, the following letter was received from the forwarding house in Buffalo dated "Buffalo 28th September 1833." "You wrote us some days since on "the subject of the delay of your goods. We "think this will convince you that we are not to "blame. Your goods were shipped immediately "on their arrival at Buffalo, but the Vessel that "had them was driven past Ashtabula in a gale, "and brought up at the upper end of the lake.— "She returned with the goods as soon as the "weather permitted. Other Vessels were driv- "en by in the same gale." *Signed*

NORTON & CARLISLE.

These goods must have arrived at Buffalo, by the 28th of August, and were consigned to a house in Ashtabula about 130 miles from Buffalo, and 50 from Warren. Nearly a month elapsed before they could be obtained from Buffalo, in that early season of the year. The other parcel being later in the season, experienced a still greater delay.

Mr. G. MYGATT's goods left New York on the 18th of October, and arrived at Ashtabula on the 21st of November. Messrs. H. & C. SMITH's and Mr. IDDINGS' goods left New York on the 27th of September, and were received on the 28th of October. Both paid an insurance across the Lake of one-half per cent. Mr. GOODHUE paid an insurance on his last supply this season of five-eighths per cent. Mr. ADAMS' were shipped at New York on the 28th of Aug. and were partly received on the 28th of September, and the residue on the 14th of October, having been separated in some of the transhipments, which caused this additional delay in reaching Fairport at the mouth of Grand River.

Mr. GILBERT made his purchases in Philadelphia and New York. October 2d. his goods left Philadelphia *via* Pittsburgh, and arrived in Warren in about twenty-two days thereafter.

Those purchased in New York, left that city *via* Albany on the 8th day of October, and have not at this date, (December 10th) been received; on the 6th of December he received notice that they had been landed at Ashtabula, about the 2d instant.

Mr. A. W. PORTER has always heretofore obtained an insurance on his goods across the lake, and has never paid less than one-half per cent. This season his goods left New York on the 16th of August, and were received in thirty days.— His purchases in Philadelphia have been received via Pittsburgh in twenty days.

Mr. J. L. VANGORDER, C. PEASE, & Co. and G. LEWIS, all had their goods shipped from N. York about the 19th of October. Mr. Vangorder's were landed at Ashtabula on the first of Dec., and reached Warren on the 9th. Messrs. C. Pease and Co. have recently received information, that part of theirs have been landed at Fairport, and part at Ashtabula, thirty miles distant from each other, and contrary to their orders.

Mr. Lewis on the 6th of December, received notice that the balance of his were landed at Ashtabula, having been previously informed that a portion of them had reached Fairport about the first of the month.

Instructions had been given by both Pease and Lewis, to procure an insurance on their goods across, the lake.

The latter has received no information on this point. The following letter has been received by Messrs. Pease & Co., dated

"Buffalo, Nov. 22, 1833.

"Your favor of the 18th instant came to hand "this morning. "Your goods were taken out on "the dock to be shipped by the Whittlesey, with "Mr. Vangorder's goods, but she could not take "them. Since when, we have shipped all your "goods on schooners Black Hawk and Eclipse "for Grand River. They left here day before "yesterday with the fleet. the first sail that left "this port in two weeks. Messrs. Gardner and "Patterson did not inform us that your goods "were to be insured, consequently they went "without insurance." (signed)

"NORTON & CARLISLE."

Messrs. Pease & Co. have heretofore paid insurance of three-fourths per cent., and in no instance less than one-half per cent. on the lake.

The foregoing names include all the Mercantile Houses in Warren, which have shipped goods from New York via Albany this fall, and an accurate computation of the various periods of the departure and arrival (supposing them all to have been received) of the several parcels, will show; taking the whole fall season, from the middle of August, the average time consumed in their transportation to be more than forty days. When it is considered that ten days is all that is asked by contract, for the delivery of goods from New York to Buffalo, a distance of at least five hundred miles, and the balance of the distance only one hundred and eighty miles to Warren, some opinion can be formed, of the vexation, delay, and embarrassment, which the commerce of the whole western country is compelled to encounter, in consequence of the lake navigation.

The following letter addressed to Mr. G. Lewis, by Messrs. Hubbard and Parsons, forward-

ing merchants, at Ashtabula, dated December 3d 1833 will exhibit the comparative charges between the lake and canal transportation, on an ordinary lot of goods for the western country.

"Dear Sir;

"The charges on your goods are as follows

"Transportation of 16,310 lbs. at 67cts.	$112 63
"Albany and New York charges	1 62
"Swift sure charges	29 57
"Augustus Eaton's charges	13 37
"Lake freight 120 Barrels' bulk at 8s.	120 00
"our charges.	12 00
	$280 69

It may be necessary to a full understanding of these items to explain them. The first item embraces the charges on the canal, from Albany or Troy to Buffalo; the second incidental expenses at Albany and New York; the third, charges for freight up the North River, fourth for transportation and forwarding at Buffalo, fifth transportation across the Lake from Buffalo to Ashtabula; sixth receiving and forwarding at Ashtabula. The three first charges, amounting to one hundred and thirty four dollars and eighty two cents, are incurred between New York and Buffalo; the three last amounting to one hundred and forty-five dollars and eighty seven cents after their arrival at Buffalo on being landed at Ashtabula. The former sum covers the expense of transportation, for more than five hundred miles, the latter only about one hundred and thirty miles, and the incidental expenses of transhipment etc. etc.

It is proper here to remark, that the above bill although paid when presented, does not exhibit a fair statement of the usual charges across the Lake throughout the season, and perhaps not for the same period, in other years. On enquiry we learn, of the only two merchants in Warren, who have paid for the transportation of merchandize across the Lake at an earlier period this season, as a separate charge from the canal transportation, one paid at the rate of five shillings and the other of six shillings per barrel bulk. The usual, and as far as our knowledge extends, the uniform method of charging freight upon merchandize on the Lake, is by admeasurement, bringing all packages into cubic feet, and estimating their contents by the barrel bulk. This is one reason, why Steel, Iron, and other heavy commodities, have been transported so much cheaper by weight across the Lake, than goods generally are, and the same reason would induce the carrier, to take them at a less price through the entire route, because a greater amount could more easily be stowed away in the canal boat. If we estimate the average price of freight from Buffalo to Ashtabula at three shillings per barrel bulk, which will probably fall short of the price throughout the season on merchandize; we shall then find the charges attending the Lake transportation, compared with the canal, and north river charges, in point of distance, to be more than double, on an ordinary assortment of goods.

The charges on the above mentioned goods, from New York to Buffalo, including incidental expenses, were 134,82 dollars:—the charges on the same parcel, from Buffalo to Ashtabula, at three shillings per barrel bulk including incidental expenses, would be seventy dollars and eighty seven cents, and the distance but little more than one quarter as great. If to this should be added, the amount of insurance, the aggregate expense of the Lake charges, would in numerous instances exceed the other, on an entire cargo and uniformly so, on all valuable packages. But when the value of time, and the importance of making certain calculations in all mercantile operations are taken into view; the embarrassments occasioned by this uncertainty and delay; sufficiently developed by the transactions on the Lake the past season alone, can be fully realized by those only, who have felt their withering and disastrous effects. How urgent then is the necessity, how wise must be the policy, and how imperative the duty, enjoined upon Ohio, and Pennsylvania, of emancipating the commerce of the former, from these unnecessary and consuming charges and embarrassments, and of securing to the latter, the immense revenue and advantage, to be derived from its introduction to her commercial cities, through her extensive line of canal already in successful operation.

To show the extreme hazard of delaying for a few weeks, the purchase and shipment of goods from New York, and the consequent necessity which exists, of performing all these mercantile operations, within the period of a few summer months, the following correspondence is inserted. Extracts from a letter from a forwarding house at Ashtabula, to a merchant in Warren dated Nov. 1833.—"Yours "of the 18th has just been received. The "Whittlesey has been in Buffalo two weeks "to morrow, during that time, not a vessel has "left Buffalo that we have heard of. In fact "there has not been an opportunity to come up "the Lake, for that length of time. We have "this evening received a letter from Messrs "J. L. Barton & Co. dated the 16th saying "*that the Whittlesey and forty other vessels, are "loaded and waiting to come up the first oppor-"tunity. We had a fall of snow of two feet in*

"*depth last week, and there is every appearance*
"*of the closing of navigation.*

"It is fully evident that your goods and those "of your neighbors, are yet at Buffalo. If they "come up this fall, you shall have the earliest "notice of their arrival.

The following letter dated Buffalo Nov. 18 1833, was addressed to Mr. Z. KENT, a merchant at Ravenna, "We have received and "forwarded the following lots of your flour:— "Nov. 10th two hundred and twenty seven "barrels, Nov. 16th two hundred and fifty "three barrels. We presumed you would be "anxious to know, whether the flour had gone "forward. There may be some doubt of its "getting through, on account of the severity of "the weather. We think it will, and continue "to make shipments. Snow is from a foot "to eighteen inches deep, and has added much "to our apprehensions, of an early close of "navigation on the canal. We hope your goods "have got up, though for a time, we thought "there was little prospect of it. We have a "fleet of some sixty sail in port now, and not "a vessel has left for the last ten days"

(*Signed*) "BARKER & HOLT."

The following extracts are taken from a letter written by Mr. Prentiss a merchant at Ravenna.

"By referring to my books and papers, I "find that my goods left New York Oct. 5th; "part of them arrived on the 9th the residue on "the 29th of November. Ten days is the usu "al time required from New York to Buffalo; "consequently the detention must be at Buffa "lo, and on the lake. The detention of goods "in the spring, is felt more sensibly. In con- "sequence of the late period, that the ice re- "mains in the lake, June is generally far advan "ced, before we receive them; and after an ex- "perience of twelve years, I think I can safely "say, that more of them are detained until Ju- "ly, than are received in May. It will readily "be perceived, that this crowds the spring and "fall purchases very near together, the effects "of which, must be apparent to all business "men. A connexion between the Pennsylva- "nia and Ohio canal at Akron, would enable "the merchant to divide the seasons more e- "qually, and necessarily turn the trade from "New York to Philadelphia. On my return "from New York this season, I was detained "one week at Buffalo, during six days of which "time, not a Steam Boat, or Vessel, could go "up the lake. I then took passage in the "Steam Boat Henry Clay, and was four days "on my passage to Cleaveland. During my "stay at Buffalo, I had an opportunity to learn "the great amount of property which, had been "lost, and damaged the present season on the "Lake, but cannot at this time, state it with "accuracy. It may be found, however, by re- "fering to the public journals of the day."

From a communication dated Nov. 25, 1833 we make the following extracts. "Towards "the last of October, I left Hartford, Connecti- "cut, to go to Gambier in Ohio, for the purpose "of becoming a member of Kenyon College.— "I arrived at Buffalo on the 5th of November, "and engaged my passage to Cleaveland, on "board the schooner Globe, Capt. Burnet mas- "ter, which was to sail the next day laden with "merchandize, for Cleaveland. On the morning "of the 7th, we left the harbor and proceeded up "the Lake as far as Grand River, when we were "driven back to Erie, where we arrived on the "8th, and were there detained by adverse winds "until the 10th, when we again set sail for Cleve- "land, and were driven past that harbor, which "we could not make, and on the 12th, found our- "selves near our former anchoring ground at "Erie, where we were compelled to remain until "the 15th, that day found us again out at sea, steer "ing our course towards the desired port. But "we were destined once more to witness the su- "periority of the elements over the persevering "skill and industry of man. After passing Ash- "tabula and attempting to make the harbor of "Grand river, we were driven back the third time "to Erie, where after waiting for favorable winds "until the 20th I was then advised to go ashore "and take the stage for Cleaveland, by which "mode of conveyance, I reached that place on "the 21st, well satisfied with the change. The "vessel was said to be one of the first class upon "the Lake, the Captain an experienced seamen, "and had no business at any other port east of "Cleaveland. There were thirteen other pas- "sengers on board the vessel, during the whole "time, four of whom only, left it when I did.

(Sigued) "SEYMOUR M. SPENCER."

Upon the subject of the opening of navigation in the spring at Buffalo and Detroit, the following information has been received.

Extracts from a letter, from the collector of customs for the Port of Cleaveland District of Cuyahoga,

"dated December 10th, 1833."

"Sir in reply to your letter of the 4th instant, "inquiring at what times in the spring of the year "navigation is open at Cleaveland, and at Buffalo "I have to state that Vessels depart from Buffalo "for Cleaveland, as soon as the navigation will "possibly permit in the spring of the year; as the "Erie Canal is first opened. But it is not al- "ways, in the first opening of navigation from "Detroit to this place, that navigation commen- "ces between that place and this. With these "facts, and the following estimates of arrivals at

"this place from 1829, to 1833, from Detroit "and Buffalo. taken from manifests on file in this "office; an opinion may be formed, of the differ- "ence in the times of opening of navigation at "Buffalo and Detroit.

"In 1829, the first arrival from Detroit was 'April 10th.

"In same year the first arrival from Buffa 'lo was May 23d.

"In 1830 the first arrival from Detroit was 'April 3d.

"Do.	Buffalo	" 17th
"In 1831 the first from	Detroit	March 29th
"Do.	Buffalo	May 12th.
"In 1832	Detroit	March 28th
"Do.	Buffalo	May 8th
"In 1833	Detroit	April 2d
"Do.	Buffalo	" 17th.

There is also accompanying this letter a certified statement of the number of vessels and Steam Boats, which have entered and cleared, at that port with the estimate of their cargoes, tonnage &c. from 1825 to 1833, which corresponds with the extracts from the Cleaveland paper, already published in one of the reports. The transactions of 1833 are here only inserted, "Vessels arrived and cleared 800, 'aggregate tonnage 56,250, value exported one 'million seven hundred and ninety four thou- 'sand dollars, imported four million seven 'hundred thousand dollars, arrivals from for- 'eign ports one hundred and twenty-five, value 'of foreign imports three thousand five hun- 'dred dollars; do. of exports two hundred and fifty thousand dollars, arrivals of Steam Boats 'seven hundred and five total; Vessel 'and Steam arrivals one thousand five hundred 'and five, aggregate tonnage of do. two hun- 'dred and thirty two thousand five hundred."

(Signed) "S. STARKWEATHER,
Coll. Customs."

The following is a copy of a letter, from a forwarding and Commission merchant, who has been for some time & still is extensively engaged in mercantile business, and personally interested in Vessels upon the Lake, dated "Fairport Dec. 18th 1833."

"In answer to your letter of the 9th, I have 'to say, that I have no *certain* way of answer- 'ing your inquiries *correctly*; but my *opinion* 'is, that Lake Erie is navigable at Cleaveland 'and west of there, six weeks earlier than at 'Buffalo, and three weeks earlier than at Erie. 'The average price of transporting goods from 'Buffalo to Ashtabula, or this place, from the 'time of sailing in the spring until 20th of Sep- 'tember, has been sixteen cents per hundred 'pounds or thirty one cents per barrel. After 'the 20th September, the price increases as 'the navigation becomes more interrupted by 'gales of wind and frost. In the last of the 'season the freight is generally about fifty cents per hundred pounds. The insurance in "the spring and fall, is from half, to one per 'cent. I have been a forwarding and Commissioner merchant at Fairport twelve years last past." (Signed)

"HENRY PHELPS."

From the collector of tolls on the Ohio canal at Cleaveland under date of December 13th, 1833, the following additional intelligence has been received.

"The precise amount of tolls received at "this office during the year commencing with "the first of January last up to last evening is "fifty one thousand nine hundred and twenty "two dollars and sixty two cents. Although "the weather is yet fine for boating, most of "the boats are laid up in anticipation of cold weather; and but a small amount will be col- "lected during the remainder of the year; "probably enough, however, to increase the "amount to fifty two thousand dollars."

(Signed) "D. H. BEARDSLEY."

The following extracts are taken from the annual Message of the Governor of Ohio, to the Legislature, Dec. 3d. 1833.

"The amount of tolls collected on the Ohio 'canal for the year ending the 15th of March, "1833 is $130,026

"Amount of same on Miami canal is 49,946

"Total amount of collections on Ohio "and Miami canals, 179,973

"Amount paid into the Treasury by "Alfred Kelly for water rents and Lots 'sold 1,981

$181,954

"The receipts of tolls next year it is antici- "pated will be sufficient to pay the interest on "the whole debt, and will gradually thereafter "accumulate a surplus sufficient in amount, if "profitably invested, to extinguish the whole "canal debt by the time it becomes due."

"There is no part of our state policy that "we can contemplate with more satisfaction "than our works of internal improvement.— "The advantages resulting from them are not "only felt in all parts of our State, but to a "considerable extent in the adjoining States." "When we view the local situation of the state "and consider the various interests by which "we are connected with the North, the East, "the South and the West, and that no import- 'ant communication can be opened between "these different sections of the Union without "passing through or touching the borders of our 'state it is obviously our true interest, to en- "courage as far as we possess the means to do "so every species of improvement that may "tend to open an additional avenue for the "transportation of our produce or add to our "choice of markets. Plans of internal im- "provements by side cuts, lateral canals, rail

"roads and turnpikes have been projected and "acts of incorporation obtained for many of "them. Among these improvements may be "considered the connection between the Ohio "& Pennsylvania canals and the rail road from "Pittsburgh to the Ohio canal as being entitled "to the fostering care and patronage of the "State as far as may be consistent with its "general interests."

From the foregoing statements and extracts it will readily be perceived, that the amount received for tolls and water rents on the Ohio canals the current year has exceeded our former calculations as reported to the convention, both at the office at Cleaveland and on the entire line up to the 15th of March, 1833, and that the succeeding year will probably be sufficient to meet the interest of the whole canal debt.

The facts contained in the foregoing pages, so far as they appear to be quotations, have been carefully collated by the undersigned and believed to be strictly correct; what is stated on the information of others is entitled to equal credence. Owing to the long delay occasioned by the absence of the New Lisbon documents it has been thought advisable by the committee appointed to publish an address, to suspend that duty and give to the public the journals of the Convention without further delay.

LEICESTER KING,
on behalf of said Committee.

The three following are the documents referred to, marked A. B. & C., received at New Lisbon by the Committee on the decision of the routes.

The Committee, appointed by the Convention at Warren for the purpose of obtaining information of a local character, deemed important in the contemplated connexion between the Pennsylvania and Ohio canals, and to communicate the same to the committees appointed by the citizens of Philadelphia and Pittsburgh, would respectfully advert to reports and facts, that may in their opinion, have an important bearing, upon the proposed connexion. As many rumors, emanating, from a creditable source, have gone to the public, unfavourable as to the supply of water on the summit level of the Sandy and Beaver canal, we would respectfully advert to the documents accompanying this statement, hoping thereby to satisfy the committees, that those rumors are unfounded.

And first, in order, we would respectfully refer to the report of Major D. B. Douglas, & trust that it will receive a full, fair, and impartial examination.

We would also refer to the map or draft of the summit level of the canal, drawn by J. Williard Esq., county surveyor, and also surveyor of the canal line under the direction of Major Douglas. From that map, together with the accompanying certificates of Mr. Williard, this fact is fully established, that the extent of country drained by the streams flowing into the summit level of the canal, is seventy five square miles, instead of sixty five, as heretofore stated by one of the Committee. We would also respectfully refer to pages 51, 2, 3 and 4 of General Bernard's report upon the supply of water of the summit level of the Chesapeake and Ohio canal; In that report General Bernard assumes this position, 36 square miles of country drained, is sufficient, with the assistance of reservoirs, to supply the summit level of that important improvement: We would earnestly but respectfully urge the attention of the Committee to that part of the report of General Bernard, the facts there stated, and the deductions from those facts, and request their application to the contemplated connexion between the Pennsylvania and Ohio canals, by the waters of the Sandy and Little Beaver.

We would further request the attention of the committee to the facilities with which any number of reservoirs, that may be deemed necessary, can be formed, should the natural supply be found insufficient. Although we wish not to show invidious comparisons, we cannot but here remark, that four reservoirs, including more than eleven miles of feeders, are deemed necessary for the supply of the summit level of the contemplated canal to Akron, at a cost of more than seventy-six thousand dollars; and the friends of that improvement deem it one affording extraordinary facilities. We unhesitatingly say, from our own knowledge of the country drained by the streams flowing into the summit level, that much more capacious reservoirs may be formed on the Sandy and Beaver summit, with far less expense; and we appeal with confidence to the observations made by the committee, for the truth of the above statements.

We would respectfully, but earnestly, request the attention of the committee to the facts last suggested, and, that in forming their opinion on this subject, (important to them, as also to us) they will examine with care, all the facts and suggestions here made:—If the committee should be satisfied upon examination, that this canal route has the important requisite—a sufficient supply of water upon the summit level, any information we can give, respecting the eastern or western division, will be superfluous; their own observations and Maj. Douglas' report, will be far more satisfactory. We would make one other remark, that the important material—stone, for locks and aqueducts—is abundant on the whole line, and may in that particular (as the com-

mittee believe) be favourably contrasted with the Mahoning route. The suggestions here made respecting the summit level are made for the purpose of drawing the attention of the committee, particularly to the supply of water upon the summit, and leading *them to investigate the subject fully in all its bearings.*

Our deep solicitude for the improvement must be our apology for thus earnestly requesting this examination. For the considerations offered in favour of the Sandy & Beaver canal route, and its advantages over any other connection, we would respectfully refer the committee to a work, of which, one, of the members of the Committee from the city of Pittsburgh is the author and compiler, where they are fully and distinctly set forth. Your committee would refer to a report of a local committee, (appointed by the citizens of New Lisbon) which accompanies this; in which, the question of the supply of water upon the summit level, is more fully and forcibly discussed; which report, with the accompanying documents, contains information of an important local character.

All which is respectfully submitted.

ELDERKIN POTTER,
on behalf of the Committee.

To the delegations from Philadelphia & Pittsburgh now examining the respective routes, proposed for a communication between the Pennsylvania and Ohio canals.

The undersigned, a committee appointed at a public meetng of the citizens of New Lisbon, beg leave to present to your consideration, a few facts and suggestions in relation to the Sandy and Beaver Canal. Situated as you are, we are sensible that partizan statements and suggestions, must be regarded with caution and received with many grains of allowance; That self interest, bias, and prejudice, are operative alike upon the perceptions and declarations of candid and honourable men you have doubtless had abundant evidence, during your recent observations. We do not claim to be exempt from their influence; nor do we ask or expect to receive from your hands, greater indulgence than shall be extended to others.

We, however, pledge ourselves, to state nothing as *fact*, which we do not at least *believe* to be *true*: all that we ask is, that our suggestions and reasons should be received, as we doubt not they will be, in a spirit of liberality, and credited in your estimate of conflicting claims for what they are worth. It is known to us that three rival projects, each claiming superior advantages, have been presented to the attention and have courted the preferences of the citizens of Philadelphia and Pittsburgh, and that to you has been delegated the important trust of deciding upon their respective pretensions. Intimations have been received, that one of those projects has encountered your disapprobation, and is consequently excluded from further competition.—Two projects only, remain; the Mahoning whose pretensions to your favour, are vigorously pressed and ably sustained by extensive and powerful influence, conspicuous and elevated talent, unremitted and untiring industry, and the Sandy and Beaver project of whose claims to your favorable regard, we are the humble advocates.

It is our purpose to vindicate not to criminate; to defend not to attack. Though our claims may have been treated with severity and injustice and perhaps in some instances with ridicule and reproach by those whose interests would be affected by our success, still we feel no disposition to retaliate. Though when smitten upon one cheek we may not possess christian humility enough to present the other, we shall not dishonour our cause, even if in our power, by the exaction of an eye for an eye, or a tooth for a tooth. We rely for success upon the merits of our own claims and not upon the want of merits in those of our competitors; upon firmness in defending our own pretensions and not upon chivalry in assailing those of our opponents.

Reports have gone abroad, assuming a definite and tangible form, and promulgated by responsible authority, reports which have come to your ears and have been pressed upon your attention in the most imposing manner, that our project is impracticable. These reports have originated from interested sources and have sprung as we believe, from a spirit of rivalry. They have been circulated by those whose means of knowledge were far less than their disposition to prejudice, and whose zeal in undervaluing our claims, has been proportionate to their interest in our defeat. That *some* who participated in that circulation believed them *true* we as little doubt as that *others* who shared liberally in their circulation had reason to believe them *untrue.*

Still the charges have been made and, if found true, must of course silence our pretensions. The examination of this question, we can readily imagine, will be a preliminary step in your investigation of our routes, for upon the determination of it must depend the necessity and policy of ulterior proceedings.

We aver that our project is not only practicable but feasible; that an abundant supply of water for the summit and dependent levels can be obtained without difficulty and without unreasonable expense. The question naturally presents itself, what quantity of water will be requisite to supply the summit level between Beaver and Sandy, the dependent levels, and leakage in passing from either extremity of the summit to lower levels? the determination of

this question, will depend upon the quality of the soil on the summit level, the lift and dimensions of locks, and the number of boats to be passed in a given time. In forming an estimate of the quantity of water that will be required to supply leakage and filtration on a given extent of canal, much it is evident will depend upon the quality, of soil, the elevation or depression of ground over which the canal passes. When a canal is located on depressed ground of a tenacious and retentive quality, bounded on either side by high lands sloping towards its line, a comparatively small quantity of water can escape by leakage and filtration, but when on the other hand a line of canal is run upon elevated and sideling ground of a porous and absorbent nature, large quantities of water will penetrate the banks and pass off by absorption to lower levels. It appears from the report of Major Douglas, that a large portion of the summit level between Sandy and Beaver is of the former description. It appears from the report of the Ohio canal commissioners and one of the engineers in 1825, that the Licking summit and dependent levels are forty one miles in length and two thousand three hundred and twenty five cubic feet per minute are the estimated expenditure by evaporation, leakage and filtration for that length of canal, which would average about fifty seven cubic feet per minute per mile.—

It is proper however to remark, that, of the above distance, it was estimated that about eight miles of the line, including the deep cut and some portions in the vicinity of the reservoir, would feed itself. In a report on the French Creek feeder by Major Douglass to the board of canal commissioners of the State of Pennsylvania dated January 1, 1827, it is estimated that the loss by evaporation from the surface of a canal forty feet wide, is about two cubic feet per minute.—He states in that report that, "on the New York canal it was observed during the first years of the construction, that the expenditure for evaporation and filtration amounted to upwards of one hundred cubic feet per minute; but as the supply of water is very abundant, it is presumed that the canal was not as carefully puddled as it might have been; when this is done, the expense of water attributable to the causes (evaporation and filtration) may be reduced to half that amount and probably to as little as one fourth after sufficient time has been allowed for the bank to settle."

Major Douglass states, in his report, that a considerable portion of the summit and dependent levels is a strong clay, in which, very little water can be lost by soakage, and even the most unfavorable parts contain so considerable a mixture of clay that, with very little care in the construction, they may be rendered nearly water tight. Of the correctness of this statement it is presumed some of you must be satisfied from an actual inspection of the ground. He proceeds to state, that, under these particular circumstances, he considers twenty-two cubic feet per minute per mile as entirely sufficient for the supply of losses of soakage and evaporation on the middle division. We will however, assume the losses at 25 cubic feet per minute and length of middle division and dependent levels twenty miles; there will require an expenditure of five hundred cubic feet per minute; He estimates that one hundred and twenty cubic feet per minute must be allowed for leakage and waste at the gates; This quantity added to the five hundred feet before mentioned, will produce an aggregate of six hundred and twenty feet per minute: all losses on the summit and dependent levels are covered by the preceding provisions, except lockage.

The extent of this loss will of course depend upon the capacity and lift of the locks and the number of boats to be passed in a given time.—Let us suppose that a boat in ascending to and descending from a summit, will draw from the summit two locks full of water, one in ascending and another in descending: but the same water will admit the passage of a boat in an opposite direction; The locks on the Ohio canal, through which boats pass in ascending to and descending from the Licking summit, are ninety feet in length, fifteen in width and eight in height or lift; the commissioners in their report to the Legislature in 1825, say, that to pass one hundred boats per day in one direction across the Licking summit, through locks of the foregoing lift and capacity, would require fifteen hundred cubic feet of water per minute. Should these boats be met in every instance by boats passing in an opposite direction, two hundred boats might be passed with the same quantity of water.

We think it a fair and reasonable calculation that, if a summit will supply water for the passage of sixty-six boats per day in one direction, one hundred boats per day, may, in the ordinary course of business and without delay, be passed over the summit in opposite directions. Allowing each boat to carry twenty-five tons burthen, one hundred boats would admit the passage of two thousand five hundred tons per day across the summit; there would, in our estimation, be no necessity or use in having a supply of water for a greater quantity. It would then require one thousand cubic feet of water per minute to sup-

ply the passage of sixty-six boats per day, in one direction, through locks of eight feet lift.—By reducing the lift from eight feet to six feet, as proposed by Major Douglass, the lockage water would be reduced to, say, seven hundred cubic feet per minute in passing sixty-six boats in one direction over the summit, or one hundred in both directions.

The latter quantity added to six hundred and twenty feet per minute, required for evaporation and soakage, amounts to one thousand three hundred and twenty feet per minute to cover all expenditures on the summit and dependent levels. Let us next enquire whether we can command an adequate supply. Our available resources are, first, streams that can be conducted to the summit by excavation, second the middle fork of Beaver that can be thrown upon it by steam power, third, a stratum of three feet thick in the canal itself, fourteen miles in length (collected during floods,) and fourth, artificial reservoirs to be filled by the waters of *Cold run, West fork and Davis' Branch of Sandy*. The streams that can be conducted to the summit level by excavation were repeatedly gauged during a very dry season and yielded, as appears from the report of Major Douglass, an average supply of seven hundred and twenty-two feet per minute: This deducted from the estimated expenditures of one thousand three hundred and twenty feet, will leave a deficiency of five hundred and ninety-eight feet per minute. From our second resource, the middle Fork of Beaver, Major Douglass states, that from seven hundred and sixty to eight hundred and sixty cubic feet per minute may be obtained. We will, however, estimate the supply from this source at five hundred and ninety-eight feet which will precisely cover our estimated expenditure. From our third resource, the surpluss water of the canal on the summit, it appears from the statement of Major Douglass in his report, that one hundred and fourteen cubic feet per minute can be drawn during sixty days in each year; It may be here remarked, that these supplies have been obtained in the most satisfactory manner. The streams were frequently and carefully gauged during a remarkably dry season and under circumstances which have impressed upon our minds a perfectly satisfactory conviction of their accuracy.—The gentlemen who conducted the examinations and made the experiments, are known to us to be men of truth, probity and intelligence, and they acted under circumstances and obligations to their employers and the public, imperiously requiring a scrupulous regard to accuracy fidelity and truth.

To dissipate all doubts, supply all defects, provide for all contingencies and in fine to 'make assurance doubly sure,' we proceed to an examination of our last resources. We rely upon the map and survey of the County surveyor, to show that the waters of streams draining more than seventy square miles, may be thrown into reservoirs, during floods, for the supply of the canal during dry seasons. We have no hesitation in declaring our firm persuasion and perfect confidence, that more than one thousand cubic feet per minute can be realized from this source alone. In making this statement we rest with satisfaction, upon the extent of country that can be drained and also upon the conclusive inferences to be drawn from the reports of the Ohio canal commissioners and the United States engineers. In a report of the United States engineers in December 1826, they state with confidence that thirty-six square miles of country round the summit level of the proposed Chesapeake and Ohio Canal will, during the fall and winter, supply for a reservoir fifty-one million six hundred and thirty thousand seven hundred and ninety-six cubic yards or more than one thousand three hundred and seventy-seven millions cubic feet of water. They deduct from this quantity one third for evaporation, leakage, and absorption: but deducting two thirds, the residue would yield more than fifteen hundred cubic feet per minute during one hundred and twenty days of the driest season in each year. The calculation of the United States engineers is based upon much observation and a great variety of experiments. The correctness of the calculation is strongly fortified by the estimate of the Ohio canal commissioners, that the reservoir to supply the Licking summit which contains more than seven hundred millions cubic feet, will be filled, during the floods, in the short space of *twenty days*. A comparative view of the Licking summit and dependent levels, and the waters relied upon for a supply, and of the Sandy and Beaver summit and the waters relied upon for a supply, will place the foregoing questions in a clear point of light. The Licking summit and levels dependent upon it for a supply, including eight or ten miles of line, which it is supposed will supply itself, are about forty-one miles in length.

The Commissioners estimate the expenditures by evaporation, leakage, and filtration for this distance, at two thousand three hun-

dred and twenty five cubic feet per minute, and one thousand five hundred cubic feet per minute for lockage for one hundred boats per day, making in all three thousand eight hundred and twenty five cubic feet per minute. In their report to the Legislature, dated January 8, 1825, they say that, "to provide for this expenditure, there may be drawn from

The reservoir per minute	3000	cubic feet
from the south fork and its tributaries	250	Do.
from little walnut to supply lower levels along its valley say	200	"
fram Rackoon Fork	600	"
Total amount	4050	Do.

Making altogether a supply, during dry seasons, of four thousand and fifty cubic feet per minute, exceeding the estimated expenditures two hundred and twenty five cubic feet."—On an inspection of the preceding statement, it will readily be perceived, that the water afforded by the running streams is not sufficient to supply the loss on the summit and dependent levels by evaporation leakage, and filtration by eleven hundred and seventy five cubic feet per minute: that this deficiency, together with lockage, amounting to one thousand five hundred cubic feet per minute is to be supplied exclusively by the reservoir, and that after taking from the reservoir this supply, there will be a residium of two hundred and twenty five cubic feet per minute. It will be observed that so far from relying upon reservoirs as on the Licking summit for a supply of any part of the loss on the summit level by leakage and filtration the running streams will afford a surplus of more than two hundred cubic feet per minute applicable to lockage and wastage at the gates of the locks. It is believed that experience has amply tested the sufficiency of water on the Licking summit and we cannot doubt that the same unerring arbiter would demonstrate the truth of our averment, that our project is practicable and that the summit can be abundantly supplied with water. Invoking your careful attention to the documents with which you have been and will be furnished in relation to this important question, to the verbal communications and explanations which you have received from sources entitled to confidence and credit, to your own examinations of the country and streams, we look with confidence to a favorable result. In relation to the supply of water on the lower levels, we shall make no suggestions, never having had that supply questioned.

The important question now arises, which project presents advantages over the other, that will justify a decision in its favour? This we are aware might open a wide field for discussion. The friends of the northern route, we are advised, have entered that field and presented in lengthened detail and glowing colours to your attention every consideration that fact or fancy could enlist in favour of their pretensions. It is not our purpose to follow their example. It is unnecessary for us to do so. We shall state but few facts and make but few suggestions. In relation to the comparative distances of the two routes, we admit they have the advantage in the Lake trade by fourteen miles and in the southern, we claim the advantage over them by sixty nine miles.

It has been the policy of the advocates of the northern project, to magnify the commerce of the Lakes, to point your attention to the anticipated and accumulating freight of distant regions. We believe that they have anticipated much that will never be realized, but conceding all that they can claim or imagine, is not the difference in distance of the two routes so small, as to render their advantages over us in that trade trifling? Is it not so small that the southern route, if adopted, would secure *all* or *nearly* all the trade which the other route could secure! Is it not more than probable that the difference, if any, would be an evanescent, intangible, and invisible quantity?—But how stands the question in reference to the southern trade? Is there not danger, and great danger, that when freights shall have reached a point so far north as Akron, that, invited by an easy and rapid descent to the Lake and tempted by the golden charms of northern enterprise and speculation, they will be drawn into the vortex of the great commercial emporium of New York or borne to the seductive marts of a rival power? Is it not the interest and policy of Philadelphia and Pittsburgh to remove the field of contest for western commerce as far south as practicable? Again should the western trade be borne upon the northern and flow into the Pennsylvania canal, would it not be subjected to greater loss of time and expense of toll and freight than by the southern route? But is it from the trade of the great Lakes, of Michigan, of Huron, of the *North* that Pennsylvania will enrich herself by the proposed communication? Can any great portion of that trade be wrested from the possession and enterprise of the north? No never. It is from the eastern and midland counties of Ohio, from the fertile vallevs of the Muskingum, Sciota, and Miami; from the teeming vales and luxuriant plains of the distant and growing *west* that Pennsylvania must draw commerce & wealth if she ever realizes them through any communication with our canal. By our route a direct avenue is opened to those boundless and augmenting sources of enterprise and wealth. It requires but the application of the golden key which your capital possesses, to unlock and enjoy our

exhaustless resources. Ours possess immense advantages over the northern route, in the proximity to the line of stone, iron ore, and coal. Along nearly the whole length of the line on our route stone of excellent quality for building and for locks are exceedingly abund ant.

Along the northern route there is believed to be a great scarcity of that important article. Again what claims has the northern route upon your attention in relation to the productions of its own neighborhood that would float upon the proposed improvement to your markets and the merchandize that would be received in return? Though a fertile and lovely, it is emphatically a *grazing* country. For their cattle, horses, and mules, they find a cheaper conveyance than by canal transportation.—Their remaining objects of exports are limited We do not say that "scorched salts & cheese" are *all*, though they certainly are *prominent* articles and the quantity of the former of them must soon diminish.

Their commercial connexions are principally with New York and there a large portion of them will remain, their project, if completed, affording both them and the Yorkers important facilities. Do you often recognize their faces in your streets or welcome their custom in your stores and manufactories? Our commerce is with *you* and if the desired communi cation should be completed, with you it will forever remain. Our sympathies, our interest and feelings are with you and our position, productions and resources all invite more intimate associations and the most enduring con nexion. To give you some idea of the productions and business of our county, its capa bilities, its commerce and consumption we present for your inspection and examination, several reports from our most intelligent and respectable citizens, in whose representations you may repose entire and perfect confidence. From these reports you may form some idea of our claims to your favourable notice, of the still stronger claims of the more fertile west; of the great, the growing advantages of the proposed communication.

You have placed us under obligations of gratitude for the exposure and inconveniences which you have suffered in a personal exam ination of our route at an inclement and unpleasant season. Whatever may be the result of your examinations and deliberations we doubt not that you will be governed by a serious desire to discharge with fidelity the important trust committed to your care, and, by an enlightened regard to all the great interests affected by your decision.

ANDREW W. LOOMIS,
WM E RUSSELL,
LEONARD HANNA,
B. W. SNODGRASS,
A. L. BREWER,
W. D. EWING,
J. L. WILLIARD,
WM. D. LEPPER, Jr.
HORACE POTTER,
CHARLES D. COFFIN.

Total No. of Stores in Columbiana county proper	101
Total No. of Stores in old Columbiana county	114
No. of Flouring Mills in Columbiana county proper	64
No. of Flouring Mills in old Columbiana county	73
No. of Saw Mills in Columbiana county proper	104
No. of Saw Mills in old Columbi- county	108
No. of Oil Mills in Columbiana co. proper	5
No. of Oil Mills in old Columbiana county	6
No. of Distilleries in Columbiana county proper	65
No. of Distilleries in old Columbiana county	69

Total amount of the valuation of Columbiana county proper in 1833—$1,488,743.

Total amount of Chattle valuation Columbiana county proper, exclusive of the valuation on Stores, in 1833, and comprises only Horses and Cattle over three years old—$392,602.

The State of Ohio, } Auditor's Office,
Columbiana County, ss. } Nov. 19th 1833.

It is hereby certified, that the foregoing list of Stores, Mills, &c. is correct as charged on the Books in this office. It may be proper here to state, that Horses and Cattle under three years are not taxable in this State; and that the above valuation is made at forty dollars per Horse, and Cattle at eight dollars per head.

WM. D. LEPPER, JR.
Auditor, Columbiana County.

The following statement is taken from the returns of the Auditor of State for 1833.

Valuation of property for taxation for State and Canal purposes for 1833.

Stark County	$1,854,267
Columbiana co.	1,491,699
Trumbull do.	1,807,792
Portage do.	2,019,629
Geauga do.	1,427,869

Ashtabula co.	1,347,900

Amount of valuation of Horses and Cattle in above list as returned by the Auditor of State for 1833.

Stark County	$295,208
Columbiana co.	379,690
Trumbull do.	438,096
Portage do.	280,252
Geauga do.	197,928
Ashtabula do.	157,752

Amount of Merchants' Capital and money at interest in the above list rendered for taxation in 1833.

Stark County	$178,106
Columbiana co.	105,939
Trumbull do.	121,197
Portage do.	134,401

Total amount of taxes collected by State in 1833, as per Auditor's returns.

Stark County	$16,361
Columbiana co.	14,217
Trumbull do.	16,635
Portage do.	17,787
Geauga do.	15,832
Ashtabula do.	13,524

Note. Merchants' capital and money at interest is embraced in one item. The amount of the latter in either of the above counties would not probably exceed ten thousand dollars in this estimate.

PHILADELPHIA BOARD OF TRADE.

A special meeting of the Philadelphia board of Trade was held on the 16th inst. at the Merchant's Coffee House to receive reports of the Delegates to the Warren Convention, THOMAS P. COPE, Esq. President of the Board in the Chair.

At a meeting of the Board of Directors, held on the 11th inst., it was unanimously

Resolved, That the thanks of the Board of Directors be presented to the Delegates to the Warren Convention for the able and satisfactory manner in which they have discharged the duties committed to them, and that their report be referred to a Committee to present the same at a special meeting of the Association, to be held on the 16th inst.

General Patterson Chairman of the Committee, presented to the Chair the Report of the Delegates; which was read and is as follows:

The Delegates appointed to represent the City and County of Philadelphia in the recent Convention held at Warren, Ohio, respectfully submit herewith to the Board of Trade a statement of their proceedings. In the selection of materials for the present Report, much embarrassment has been experienced from the number and variety of topics suggesting themselves for consideration, which it was yet impossible to present, even in moderate detail, without swelling this communication beyond its proper limits. As many of these however, are believed to have an important bearing on our city and State, they will form the subjects of distinct statements to be appended to this report, or, to be hereafter separately submitted.

(*Two paragraphs omitted.*)

At Pittsburg, the delegates were joined by a highly respectable deputation from that city and the county of Allegheny, and descending, in company, the Ohio River to Beaver, they reached Warren on the evening of the 12th November.

Upon the morning of the ensuing day, the Convention consisting of one hundred and nine members, was duly organized, and proceeded at once to the consideration of the important objects of its assemblage, viz: to decide upon the most eilgible mode of uniting the public works of Pennsylvania with those of the State of Ohio, and to fix the most suitable point of junction.

Three different methods for forming the proposed connexion were presented.

1st A Canal commencing at Akron on the Ohio Canal, and passing the summit at Ravenna by the valley of the Mahoning, to meet the termination of the Pennsylvania improvements, at or near New Castle.

2d. A Rail Road from Massillon on the Ohio Canal, to the mouth of little Beaver, or by a continuous line to Pittsburgh.

3d. A Canal from Bollivar, on the Ohio Canal, by the route of Sandy Creek and Little Beaver, to unite with the Pennsylvania Canal Basin at the mouth of Big Beaver.

The merits of those several plans were explained with much ability and zeal by their respective advocates, and valuable information furnished respecting the character and products of the different counties in the vicinity of the lines of junction under consideration. Of the result of a faithful and impartial examination of the proposed modes of connexion, the Board have been apprised. The ways and means necessary to accomplish this desirable object, your Delegation leave to your respectable body to point out, but they cannot suffer themselves for one moment to believe that funds will be wanting to complete a work which is calculated to enhance the value of every house and lot in the City, and to augment to almost an incalculable degree, the commerce and wealth of every man engaged, either directly or indirectly, in the prosperity of Philadelphia.

Resolved, That the Report of the Delegates to the WARREN Convention be accepted, and published in the daily papers, and that one thousand copies be printed in pamphlet form, for the use of the Association, and citizens generally.

THOMAS P. COPE, President.

GEO. W. TOLAND, Secretary.